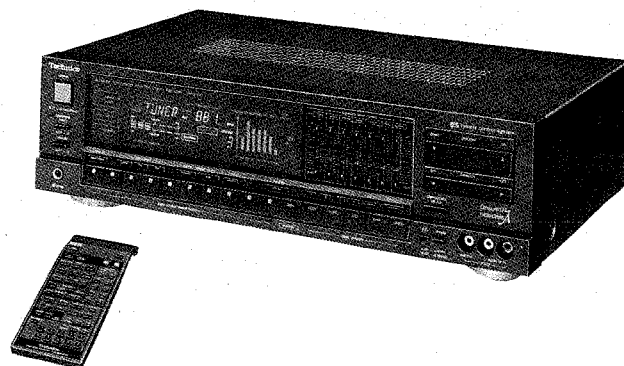


Service Manual

ORDER NO.HAD8706187C1
A2

QUARTZ Synthesizer
AM/FM Stereo Receiver

Receiver
SA-R510



Color

(K) Black Type

Area	
Color	Area
(K)	(M).....U.S.A.

SPECIFICATIONS

(IHF '78)

■ AMPLIFIER SECTION

Rated minimum sine wave RMS power output	
20 Hz ~ 20 kHz both channels driven	100W per channel (8 ohms)
0.007% total harmonic distortion	105W per channel (8 ohms)
1 kHz continuous power output both channels driven	105W per channel (8 ohms)
0.007% total harmonic distortion	1.2 dB (8 ohms)
Dynamic headroom	
Total harmonic distortion	
rated power at 20 Hz ~ 20 kHz	0.007% (8 ohms)
half power at 1 kHz	0.002% (8 ohms)
SMPTE intermodulation distortion	0.01% (8 ohms)
Frequency response	
PHONO	RIAA standard curve ± 0.8 dB
CD,TAPE/EXT,VCR 1,VCR 2	5 Hz ~ 70 kHz, -3 dB
Input sensitivity	
PHONO	0.25 mV (2.5 mV,IHF '66)
CD,TAPE/EXT,VCR 1,VCR 2	20 mV (200 mV,IHF '66)
S/N (IHF, A)	
PHONO	70 dB (80 dB,IHF '66)
CD,TAPE/EXT,VCR 1,VCR 2	75 dB (90 dB,IHF '66)
Maximum input voltage	
PHONO	150 mV (160 mV, 1 kHz)
Input impedance	
PHONO	47 kilohms
CD,TAPE/EXT,VCR 1,VCR 2	22 kilohms
7 Band Graphic Equalizer	
	63 Hz, +10 dB ~ -10 dB
	160 Hz, +10 dB ~ -10 dB
	400 Hz, +10 dB ~ -10 dB
	1 kHz, +10 dB ~ -10 dB
	2.5 kHz, +10 dB ~ -10 dB
	6.3 kHz, +10 dB ~ -10 dB
	12.5 kHz, +10 dB ~ -10 dB
	50 Hz, +9 dB
Loudness control (volume at -30 dB)	40 (8 ohms)
Low frequency damping factor	
Load impedance	
MAIN or REMOTE	8 ~ 16 ohms
MAIN and REMOTE	8 ~ 16 ohms

■ VIDEO SECTION

Output voltage (at 1 V input unbalanced)	1 $\pm$ 0.1 Vp-p
Maximum input voltage	1.5 Vp-p
Input/Output impedance	75 ohms (unbalanced)

■ FM TUNER SECTION

Frequency range	87.9 ~ 107.9 MHz
Sensitivity	11.2 dBf (2 μ V,IHF '58)
50 dB quieting sensitivity	
MONO	20.2 dBf (5.6 μ V,IHF '58)
STEREO	40.2 dBf (56 μ V,IHF '58)
Total harmonic distortion	
MONO	0.15%
STEREO	0.2%
S/N	
MONO	75 dB
STEREO	71 dB
Frequency response	20 Hz ~ 15 kHz, +1 dB ~ -2 dB
Alternate channel selectivity	65 dB
Capture ratio	1.0 dB
Image rejection at 98 MHz	55 dB
IF rejection at 98 MHz	80 dB
Spurious response rejection at 98 MHz	82 dB
AM suppression	50 dB
Stereo separation	
1kHz	40 dB
10 kHz	30 dB
Carrier leak	
19 kHz	-35 dB
38kHz	-50 dB
Antenna terminals	
FM	300 ohms (balanced)
FM	75 ohms (unbalanced)
CAFM/CATV IN/OUT	75 ohms F-type

■ AM TUNER SECTION

Frequency range	530 ~ 1720 kHz
Sensitivity	20 μ V,330 μ V/m
Selectivity	55 dB
Image rejection at 1000 kHz	40 dB
IF rejection at 1000 kHz	60 dB

■ GENERAL

Power consumption	380W, 500 VA
Power supply	AC 120V, 60 Hz

Dimensions (W x H x D)

430 x 120 x 283 mm
(16-15/16" x 4-23/32" x 11-5/32")
7.9 kg (17.2 lb.)

Weight

Notes:

- 1.Specifications are subject to change without notice. Weight and dimensions are approximate.
- 2.Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

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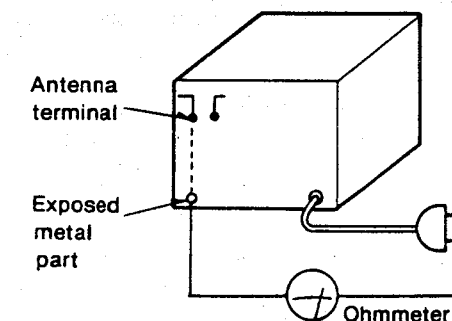
■ SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

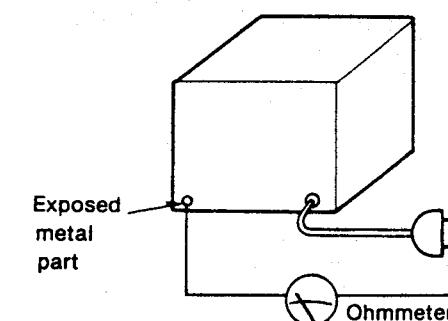
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3M Ω and 5.2M Ω to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3M Ω —5.2M Ω



(Fig. B)

Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

Technics

Matsushita Services Company
50 Meadowland Parkway,
Secaucus, New Jersey 07094

Panasonic Hawaii, Inc.
91-238, Kaui St. Ewa Beach
P.O. Box 774
Honolulu, Hawaii 96808-0774

Panasonic Sales Company,
Division of Matsushita Electric
of Puerto Rico, Inc.
Ave.65 De Infanteria,KM 9.7
Victoria Industrial Park
Carolina, Puerto Rico 00630

LOCATION OF CONTROLS

Tuner section

FM stereo indicator (stereo)

This indicator automatically illuminates when an FM stereo broadcast is being received.

Note: It will not illuminate if the FM mode selector is pressed.

Power indicator (standby)

When the power switch is set to the "on/standby" position, this indicator illuminates to indicate that the unit is in operation.

Remote-control signal indicator (remote)

This indicator illuminates when the remote-control transmitter is operated.

Quartz-lock indicator (quartz lock)

This indicator illuminates when tuned precisely to an FM or AM station.

Digital frequency display

The reception frequency of the FM or AM broadcast selected by using the tuning buttons or the preset-tuning buttons is indicated.

Channel display

The channel number selected by the preset-tuning buttons is displayed.

Memory indicator (memory)

This indicator illuminates when the memory button is pressed.

Power switch (power)

Remote-control signal sensor (remote sensor)

Receives the signals from the remote-control transmitter.

Band selectors (band selector)

CAFM: Press this button to listen to cable FM.
FM: Press this button to listen to an FM broadcast.
AM: Press this button to listen to an AM broadcast.

The indication FM used here includes both on-air FM and cable FM.

Tuning buttons (tuning)

These buttons are used for tuning to the desired broadcast station.

Memory button (memory)

This button is used when preset memory setting of the preset-tuning buttons is made.

Preset-tuning buttons (24 ch random preset tuning)

These buttons are used to preset FM and AM broadcast frequencies into the memory of this unit, and are also pressed to select the desired preset frequencies.

"VCR 2" terminals

These terminals are used for playback and edit recording if a second VCR or audio tape deck is connected here.

FM mode selector (FM mode)

This unit automatically switches to the stereo mode when a stereo broadcast is received. Press this selector to listen in the monaural mode. The FM stereo indicator will not illuminate in the monaural mode.

Headphones jack (phones)

Amplifier section

Stereoplex indicator (stereoplex)

This indicator illuminates when the stereoplex switch is at the "on" position.

Tape indicator

This indicator illuminates when the tape-monitor switch is at the "on" position.

Input selector display

Shows the sound source selected by the input selectors.

Loudness indicator (loudness)

Spectrum analyzer/equalizer level display

This display shows the spectrum or equalization level.

Equalizer preset indicators

These indicators will illuminate when one of the equalizer preset channel buttons is pressed.

Equalizer memory indicator (EQ memo)

This indicator illuminates when the equalizer memory button is pressed.

Volume/balance level indicators (volume/balance)

These indicators usually show the volume level; when the balance control is pressed, however, the position of balance level is displayed for five seconds, after which the display returns again to indication of the volume level.

When the muting button on the remote-control transmitter is pressed, the indicator corresponding to the maximum displayed volume level point will flash.

Equalizer preset buttons (EQ preset)

These buttons are used to specify an equalizer preset location when entering or recalling a preset equalizer curve.

Equalizer level controls (equalizer level control)

These controls are used to adjust the levels within each frequency band.

Speaker selectors (speakers)

These selectors are used to turn the speaker systems ON and OFF.

Balance controls (balance)

Equalizer memory button (memory)

For entering an equalizer curve into the memory.

Volume-controls (volume)

Loudness switch (loudness)

Set to the "on" position when listening to music at low volume. Auditory perception of sound in the low frequency range falls off at low volume, but when the switch is in this position, this deficiency is compensated for, so that the full impact of the musical performance can be enjoyed.

Tape-monitor switch (monitor)

Press this button to listen to tape. No other sources selected by the input selector can be heard while the tape indicator is illuminated. To listen to some other source, press this button once again.

Input selectors (input selector)

These selectors are used to select the sound source to be heard, such as a disc, radio broadcasts, etc.

Display mode button (spectrum/EQ)

This button is used to select between the spectrum analyzer and equalizer level displays.

Stereoplex switch (stereoplex)

Set to the "on" position to add a stereo ambience effect to a monaural TV, VCR or radio broadcast.

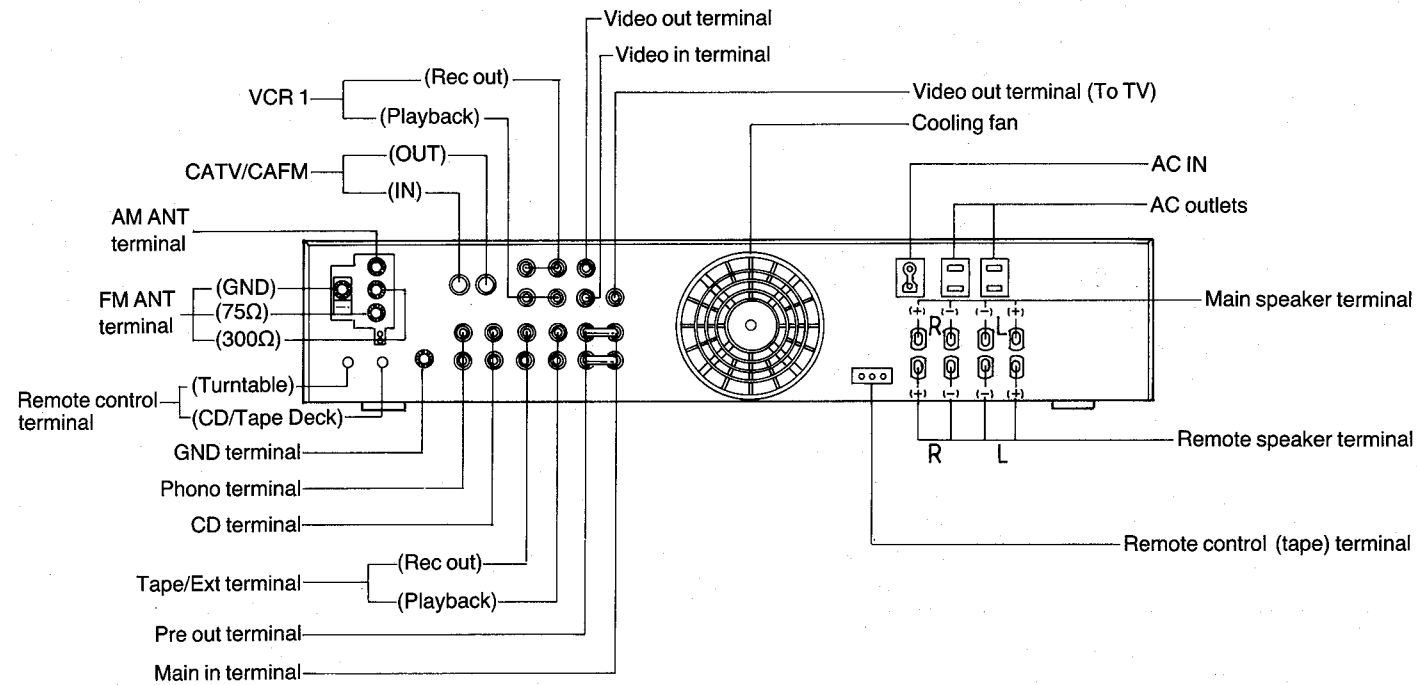
Mode selector (mode)

This selector is used to select stereo or monaural operation. When recording stereo sound, be sure to set to the "stereo" position.

Equalizer on-off switch (EQ)

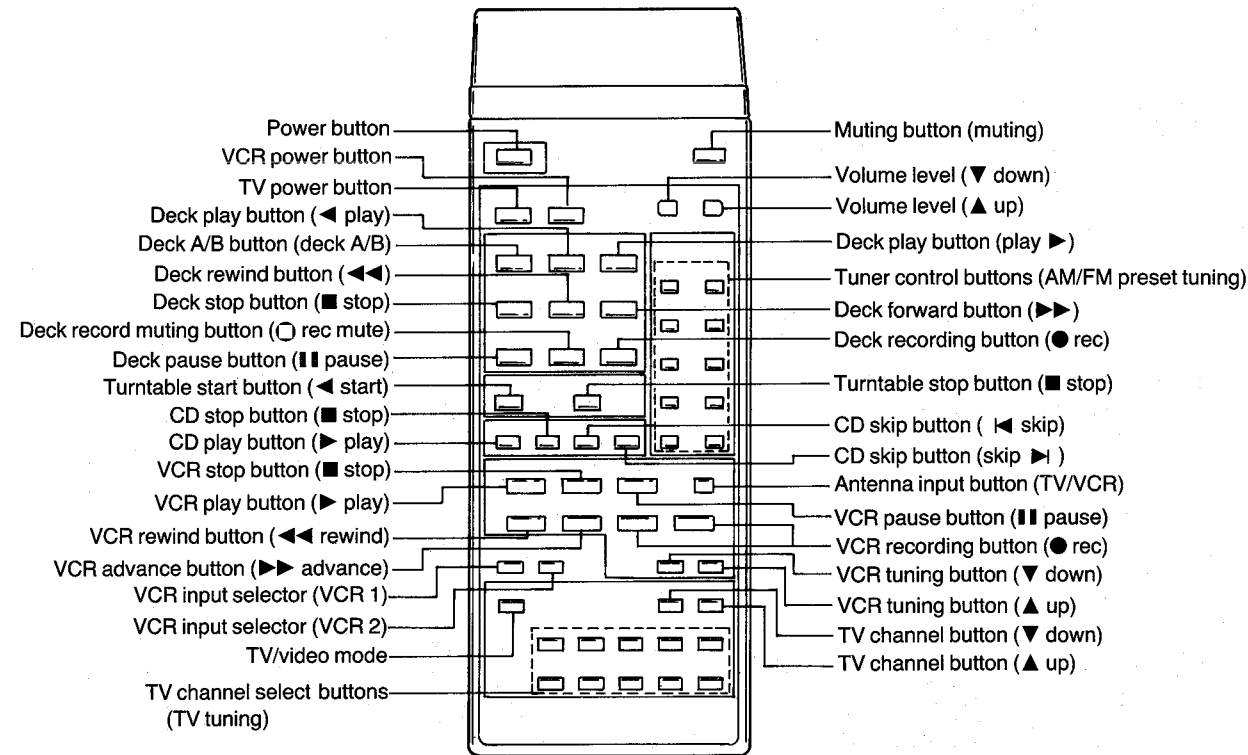
This switch is used to switch the equalization circuitry ON and OFF.

•Rear panel



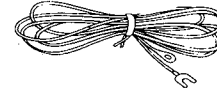
※Phono input capacitance is about 100 pF.

•Remote-control transmitter (EUR51152)

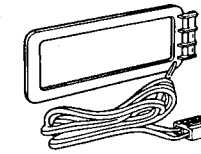


■ ACCESSORIES

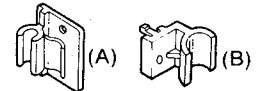
- FM indoor antenna (1)
SSA269M



- AM loop antenna (1)
SPB1152T



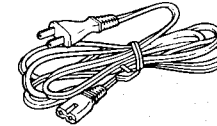
- AM antenna holders (2)



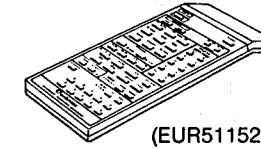
- Screws (2)



- AC power supply cord (1)
SJA172-1 (U.S.A.)
SJA172 (canada)



- Remote-control transmitter (1)

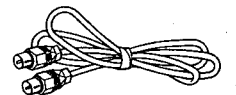


- Batteries (2) UM-4NEP



(Refer to page 17.)

- Coaxial cable (1)
SJP1108-1



■ PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

■ BEFORE REPAIR AND ADJUSTMENT

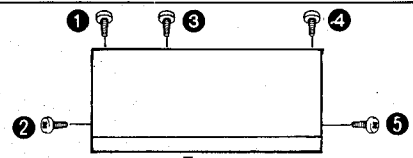
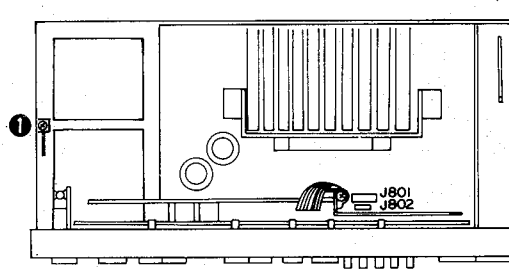
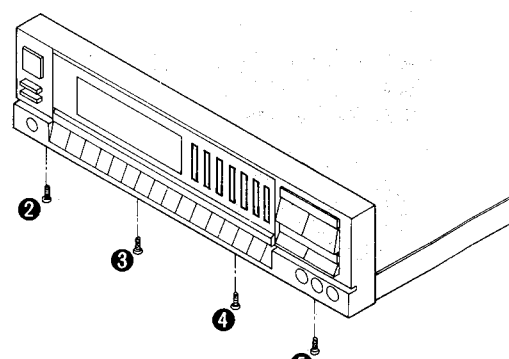
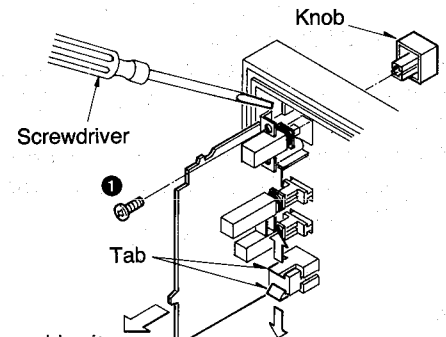
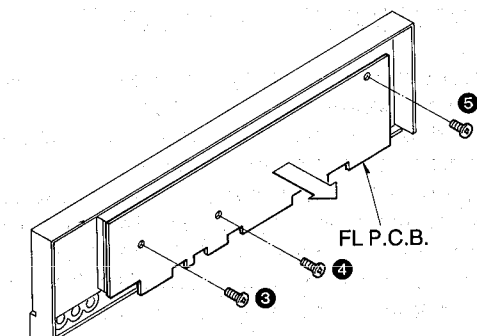
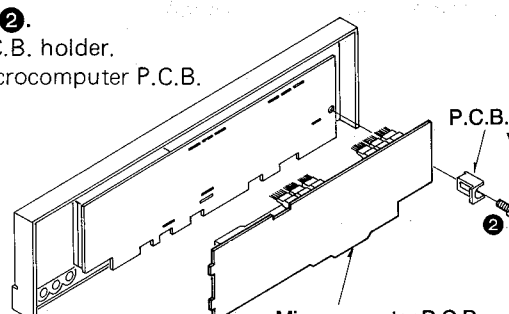
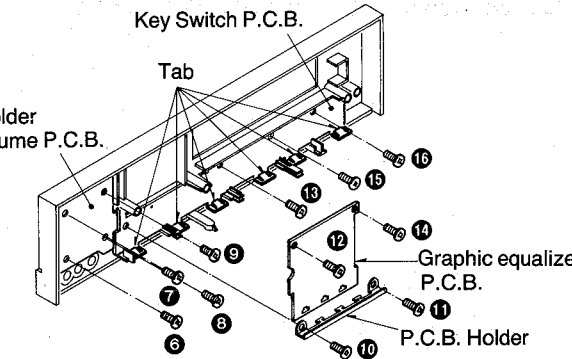
Disconnect AC power, Discharge both Power Supply Capacitors C701 and C702 through a 10Ω, 5W resistor to ground.

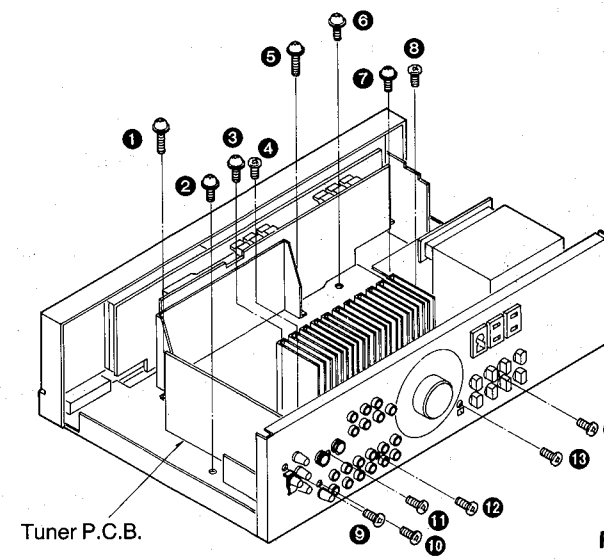
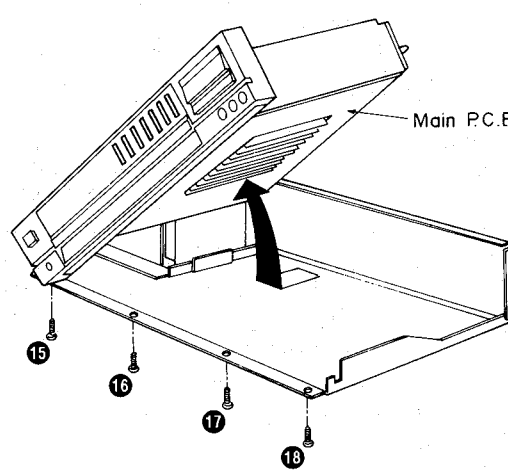
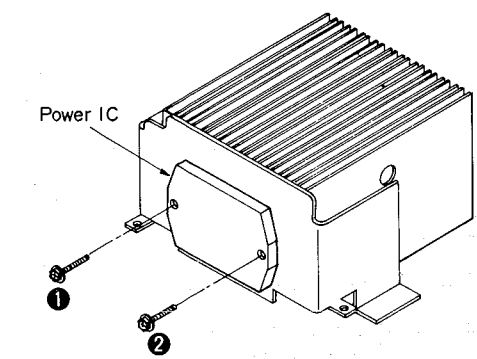
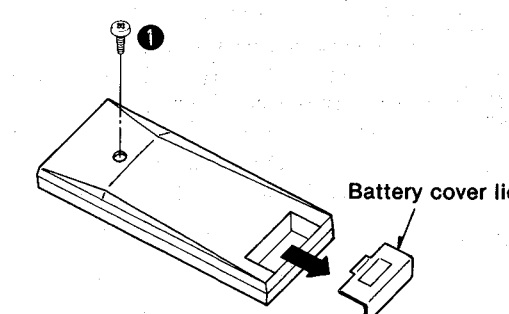
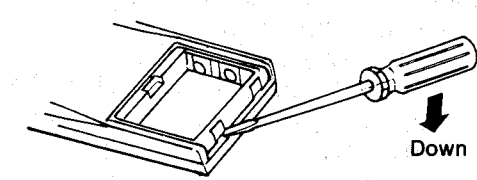
DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.

After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

Current consumption at 120V, 60Hz in NO SIGNAL mode should be 230~680mA.

DISASSEMBLY INSTRUCTIONS

"ATTENTION SERVICER" SOME CHASSIS COMPONENTS MAY HAVE SHARP EDGES. BE CAREFUL WHEN DISASSEMBLING AND SERVICING.	
Ref. No. 1	How to remove the cabinet
Procedure 1	1. Remove the screws ① ~ ⑤. 
Ref. No. 2	How to remove the front panel
Procedure 1 → 2	1. Remove the screws ① ~ ⑤. 2. Remove the flat cables J801 and J802.
Removing the flat cable (No 1 side) White line ② pull ① push No. 1 Connector  	
Fig. 1 Fig. 2	
Ref. No. 3	How to remove the sub P.C.B.
Procedure 1 → 2 → 3	1. Remove the power switch knob. 2. Remove the screw ①. 3. Pull-up tab. 4. Remove the power switch P.C.B.
 	
Fig. 3 Fig. 5	
8. Remove screws ③ ~ ⑤. 9. Remove the FL P.C.B.	
10. Remove screws ⑥ ~ ⑩. 11. Remove the P.C.B. Holder and graphic equalizer P.C.B. 12. Push in the tabs. 13. Remove the volume and key switch P.C.B.'s. These P.C.B.'s must be removed together because they are joined by a connector.	
 	
Fig. 4 Fig. 6	

Ref. No. 4	How to remove the tuner and main P.C.B.
Procedure 1 → 4	1. Remove screws ① ~ ⑩. 2. Remove the tuner and main P.C.B.'s.
 	
Fig. 7 Fig. 8	
Ref. No. 5	How to remove the power IC
Procedure 1 → 4 → 5	1. Unsolder the power IC. 2. Remove screws ①, ②.
	
Fig. 9	
- The thermal compound must be applied smoothly and evenly to assure good heat transfer between the power IC and the heat sink. - When mounting the power IC, apply silicon thermal compound (SZZ0L15 or equivalent) to the rear of the power IC.	
Ref. No. 6	How to disassemble the remote control
Procedure 6	1. Remove the Battery cover lid. 2. Remove screws ①.
 	
Down	

■ HOW TO CHECK THE FL DISPLAY AND MICROCOMPUTER PRINTED CIRCUIT BOARDS

1. Remove the cabinet (see disassembly procedure Ref. No. 1).
2. Remove the front panel (see disassembly procedure Ref. No. 2).
3. Remove the microcomputer P.C.B. and the FL P.C.B. from the front panel (see disassembly procedure Ref. No. 3).
4. Remove the main P.C.B. (see disassembly procedure Ref. No. 4).
5. Connect the 15 flat extension cables as follows (Fig. A and B):

* Between the key switch P.C.B. and the FL P.C.B., connect J904 (6-pin), J905 (6-pin), and J906 (6-pin).

* Between the microcomputer P.C.B. and the FL P.C.B., connect J803 (9-pin), J804 (5-pin), J806 (7-pin), J807 (7-pin), J808 (7-pin), J908 (5-pin), J910 (7-pin), J911 (6-pin), J912 (7-pin), and J914 (6-pin).

* Between the FL P.C.B. and the remote control sensor P.C.B., connect J913 (5-pin).

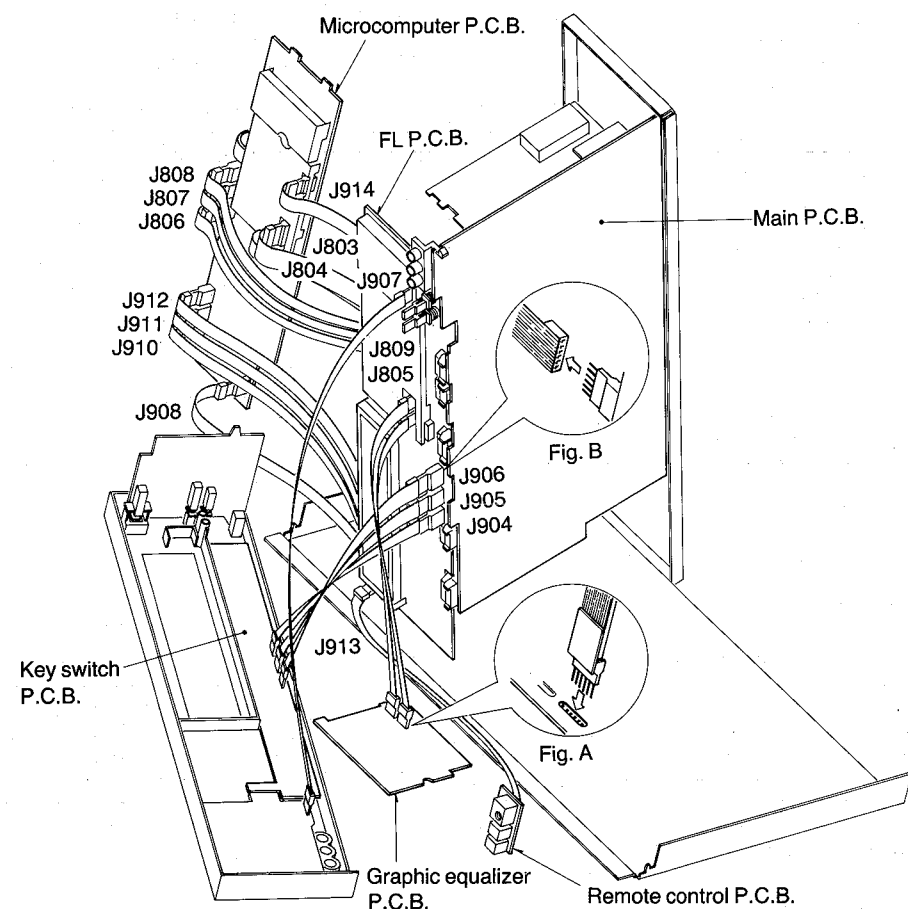
* Between the FL P.C.B. and Graphic equalizer P.C.B., connect J805 (5-pin), and J809 (5-pin).

Caution: Be sure to maintain the correct polarity when connecting the extension cables. Reversing the polarity of a connection between P.C.B.'s can cause severe damage to the unit.

6. Re-attach the FL P.C.B. to the main P.C.B.

Notes:

1. If it is determined that the problem is on the main P.C.B., it is only necessary to remove the bottom cover to troubleshoot this unit.
2. If it is determined that the problem is not on the main P.C.B., it is not necessary to remove the main P.C.B. (step 4) to troubleshoot this unit.



Extention Cable Kit

Kit. No.	Extension cables	Qty Included	Required Quantity for Model:			
			SA-R210	SA-R310	SA-R410	SA-R510
SZZA1087C	5 pin	5	1	1	2	5
	6 pin	7	7	7	6	6
	7 pin	5	0	0	2	5
	9 pin	2	2	2	2	1

■ MEASUREMENTS AND ADJUSTMENTS

■ AM/FM

Control positions and equipment used

- AM and FM signal generator (AM and FM-SG)
- Stereo modulator
- Distortion analyser
- Oscilloscope
- AC and DC electronic voltmeter (EVM)
- Frequency counter
- Choke coil (100 μ H)
- Resistor (100k Ω)
- Ceramic capacitor (200pF)

Note: For L202 and T201, adjusted parts are supplied. So, do not turn the cores of this parts.

AM-RF ADJUSTMENT

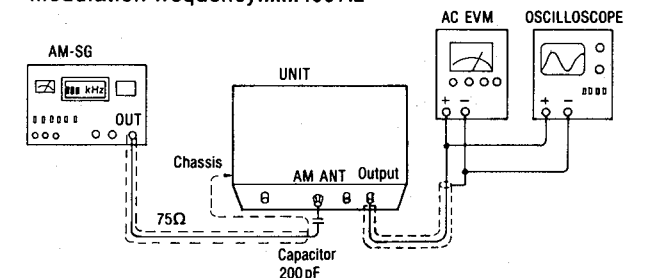
1. Test equipment connection is shown in figure.
2. Set the unit to "AM" position.
3. Place the radio frequency display and signal generator setting to 610kHz.
4. Adjust L201 for maximum output.
5. Place the radio frequency display and signal generator setting to 1500kHz.
6. Adjust CT201 for maximum output.
7. Repeat steps 3.~6.

Note:

Antenna input level must be as low as possible being free from AGC.

AM SIGNAL GENERATOR CONDITION

Modulation 30%
Modulation frequency.....400Hz



FM MONO DISTORTION ADJUSTMENT

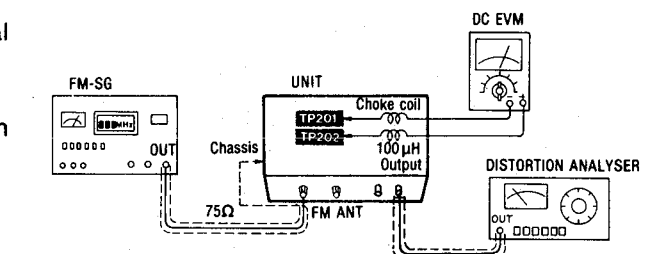
1. Test equipment connection is shown in figure.
2. Set the unit to "FM" position.
3. Place the radio frequency display and signal generator setting to 100.10MHz.
4. Adjust T202 core so that voltage measured in signal mode is 0mV (0 $\pm$ 20mV) in 300mV range.
5. Repeat steps 4 a few times.
6. Make sure that the distortion factors of Lch and Rch are nearly the same with each other to minimum.

Note:

The adjusting screwdriver used should be made of resin.

FM SIGNAL GENERATOR CONDITION

Modulation 100%
Modulation frequency.....400Hz
Output level.....66dB

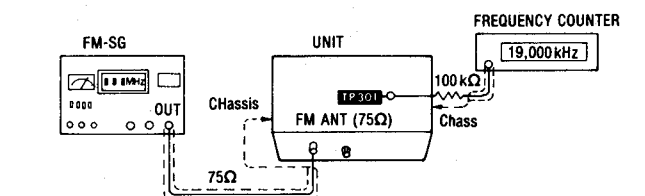


MPX VCO ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to "FM auto" position.
3. Place the radio dial and signal generator setting to 100.10MHz.
4. Adjust VR301 for 19kHz $\pm$ 30 Hz on frequency counter reading.

FM SIGNAL GENERATOR CONDITION

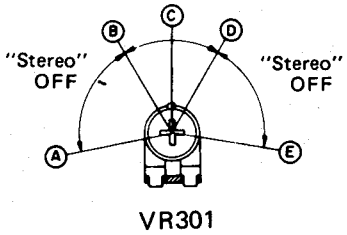
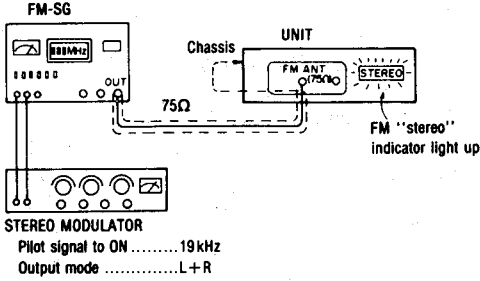
Modulation 0
Modulation frequency.....0
Output level.....66dB



★ USING ALTERNATE SYSTEM

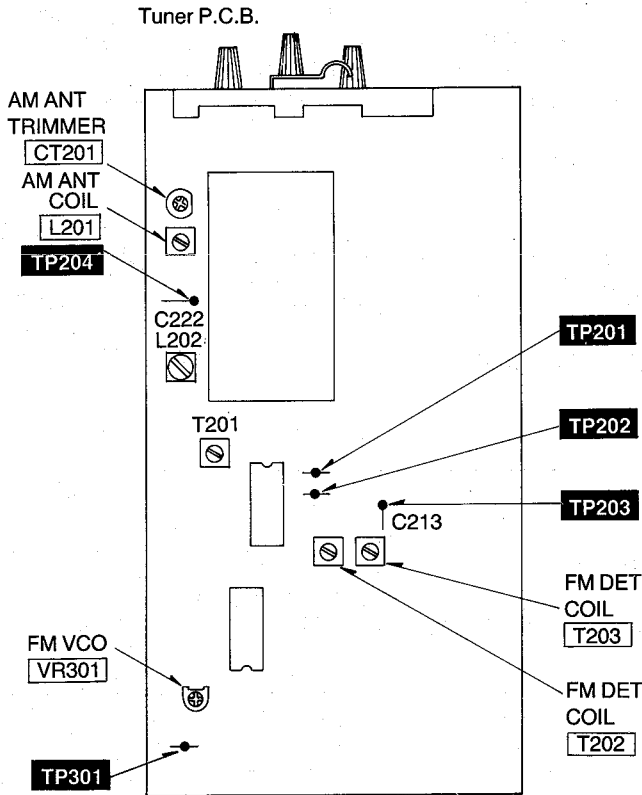
1. Apply stereo signal from generator or receive the stereo boardcast.
2. Adjust VR301 until stereo indicator lights up.
Cement arm of VR301 as shown in figure.

FM SIGNAL GENERATOR CONDITION
Modulation.....10%
Modulation frequency.....Pilot (19kHz)
Output level.....66dB



A-B, D-E,....."Stereo" OFF position.
B-D,....."Stereo" ON position.
(Indicator lighting)
C.....Adjust point of pilot circuit.

● Adjustment points



■ TERMINAL FUNCTION OF LSI

● M50720-408SP (Micro-computer)

Pin No.	Mark	I/O	Function
1	S1	O	Key scan output
2	S2	O	Key scan output
3	REM	I	Remote control data input
4	OSC1	O	Clock oscillation output
5	OSC2	I	Clock oscillation input
6	ST	I	Program start input (hot start at "H")
7	RES	I	Reset signal input (reset at "L")
8	VDD	I	Power supply (connected to +5V)
9	NC	---	Not connected
10	REM	I	Remote control data input
11	NC	---	Not connected
12	DATA	O	Selector and volume control
13	CLK	O	Selector and volume control
14	STB	O	Selector and volume control
15	TAPE2	O	Tape 2 LED display
16	1	O	Volume level LED 1 display
17	2	O	Volume level LED 2 display
18	3	O	Volume level LED 3 display
19	4	O	Volume level LED 4 display
20	---	I	GND terminal
21	---	I	GND terminal
22	5	O	Volume level LED 5 display

Pin No.	Mark	I/O	Function
23	6	O	Volume level LED 6 display
24	7	O	Volume level LED 7 display
25	S.BASS	O	Super bass LED display and super bass control
26	PH	O	Phono LED display
27	TU	O	Tuner LED display
28	CD	O	CD/aux LED display
29	TAPE1	O	Tape 1 LED display
30	CS2	O	Aux 2 LED display
31	MUTE	I	Muting control
32	PWR	I	Power detection (power down mode at "L")
33	STOP	O	Turntable stop control
34	ST	O	Turntable start control
35	REC	I	Deck on-recording signal input
36	PLAY	I	Deck control signal input
37	DECK	O	Deck control signal output
38	K0	I	Key scan input
39	K1	I	Key scan input
40	K2	I	Key scan input
41	K3	I	Key scan input
42	S0	O	Key scan output

● TC9177P (Volume Control)

Pin No.	Mark	I/O	Function
1	VSS	I	Power supply (connected to -B)
2	---	I	Loudness terminal (not used)
3	---	O	Loudness terminal (not used)
4	OUT1	O	10 dB attenuator output
5	IN1	I	10 dB attenuator input
6	GND	I	GND terminal
7	IN2	I	2 dB attenuator input
8	OUT2	O	2 dB attenuator output
9	GND	I	GND terminal
10	CK	I	Clock input
11	DATA	I	Attenuation/channel select data input

Pin No.	Mark	I/O	Function
12	ST	I	Strobe input (attenuation/channel select data input)
13	OTT2	O	2 dB attenuator output
14	IN2	I	2 dB attenuator input
15	GND	I	GND terminal
16	IN1	I	10 dB attenuator input
17	OUT1	O	10 dB attenuator output
18	---	O	Loudness terminal (not used)
19	---	I	Loudness terminal (not used)
20	VDD	I	Power supply (connecyed to +B)

● LC6512A-3377 (Micro-computer)

Pin No.	Mark	I/O	Function
1	CIN	I	Computer drive input
2	SO	O	Control output terminal for IC901(LM7001)
3	CK	O	Control output terminal for IC901(LM7001)
4	CE	O	Control output terminal for IC901(LM7001)
5	---	---	Not used
6	NC	---	Not connected
7	MONO	O	Auto/mono changeover (mono at "H")
8	SDC	---	Not used
9	COUT	O	Computer drive output
10	---	---	Not used
11	NC	---	Not connected
12	D7	O	Digit and key matrix signal output
13	D6	O	Digit and key matrix signal output
14	D5	O	Digit and key matrix signal output
15	RES	I	Reset signal input
16	---	---	GND terminal
17	VSS	I	GND terminal
18	NC	---	Not connected
19	NC	---	Not connected
20	OSC1	I	Oscillator terminal
21	OSC2	I	Oscillator terminal
22	D4	O	Digit and key matrix signal output
23	D3	O	Digit and key matrix signal output
24	D2	O	Digit and key matrix signal output

Pin No.	Mark	I/O	Function
25	D1	O	Digit and key matrix signal output
26	b	O	Segment signal output
27	g	O	Segment signal output
28	d	O	Segment signal output
29	e	O	Segment signal output
30	NC	---	Not connected
31	a	O	Segment signal output
32	c	O	Segment signal output
33	f	O	Segment signal output
34	h	O	Segment signal output
35	REL	O	Relay control
36	MUT	O	Muting control
37	HOLD	I	Power failure detection
38	INT	I	Remote control code input
39	VDD	I	Power supply
40	A0	I	Key return signal
41	A1	I	Key return signal
42	NC	---	Not connected
43	NC	---	Not connected
44	A2	I	Key return signal
45	A3	I	Key return signal
46	ST	I	Stereo signal input
47	SD	I	SD signal input
48	T	I	Tuner select input

■ REPLACEMENT PARTS LIST

Notes: * Important safety notice:

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* Bracketed indications in Ref. No. columns specify the area.

Parts without these indications can be used for all areas.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
INTEGRATED CIRCUITS			Q840	2SC3311A-Q	TRANSISTOR
IC1	AN6558F	I.C. PHONO EQUALIZER	Q901, Q902	2SC2785F	TRANSISTOR
IC71	AN7062N	I.C. AMP	Q903, Q904	2SC3311A-Q	TRANSISTOR
IC201	AN7273A	I.C. FM IF DET & AM CON.	Q905, Q906	2SC3311A-Q	TRANSISTOR
IC301	AN7470	I.C. FM MPX	Q907, Q908	2SC3311A-Q	TRANSISTOR
IC401	TC9163N	I.C. INPUT SELECTOR	Q909, Q910	2SC3311A-Q	TRANSISTOR
IC403, IC404	MS218P	I.C. OPERATION AMP.	Q911	2SC3311A-Q	TRANSISTOR
IC405	MN4066B	I.C.	Q920	UN4111	TRANSISTOR
IC406	MS218P	I.C. OPERATION AMP.	Q921, Q922	2SC3311A-Q	TRANSISTOR
IC420	MN6634	I.C. NR SELECTOR	Q923	2SA1309A-R	TRANSISTOR
IC501	TC9177P	I.C. VOLUME CONTROL	Q924, Q950	UN4111	TRANSISTOR
IC502, IC503	MS238P	I.C. BUFFER AMP.	Q951, Q952	UN4113	TRANSISTOR
IC506	LC7522	I.C.	Q953, Q954	UN4213	TRANSISTOR
IC507, IC508	MS229P	I.C.	Q955	UN4111	TRANSISTOR
IC601	SV12105A	INTEGRATED CIRCUIT	Q956	2SC3311A-Q	TRANSISTOR
IC801	MS0720-408SP	I.C. MICROCOMPUTER	DIODES		
IC802	LC6543C3413	INTEGRATED CIRCUIT	D71, D72	MA165	DIODE
IC803	LC7565	INTEGRATED CIRCUIT	D201	MA165	DIODE
IC806, IC807	AN6554F	I.C.	D202	MA4110M	DIODE
IC901	LM7001	I.C. PLL CONTROL	D203	KV1260Z	DIODE
IC902	LC6512A3377	INTEGRATED CIRCUIT	D204, D206	MA165	DIODE
IC903	LC6513A-3264	I.C. MICROCOMPUTER	D230, D231	MA858	DIODE
IC950	MN4013B	I.C.	D232, D233	MA858	DIODE
TRANSISTORS			D234, D235	MA858	DIODE
Q71, Q72	2SA1123R	TRANSISTOR	D236	MA858	DIODE
Q201, Q202	2SC2787L	TRANSISTOR	D401, D402	MA29WA	DIODE
Q203, Q204	2SC3311A-Q	TRANSISTOR	D403, D404	MA165	DIODE
Q205	2SC3311A-Q	TRANSISTOR	D591, D601	MA165	DIODE
Q206	2SA1309A-R	TRANSISTOR	D602	MA165	DIODE
Q207	2SC3311A-Q	TRANSISTOR	D603	MA4150M	DIODE
Q208, Q209	2SA1309A-R	TRANSISTOR	D604	MA165	DIODE
Q210	2SC3311A-Q	TRANSISTOR	D606	MA167	DIODE
Q231	2SK241GR	TRANSISTOR	D607, D608	MA165	DIODE
Q232, Q233	2SC3311A-Q	TRANSISTOR	D609	MA4082L	DIODE
Q401, Q402	2SC3311A-Q	TRANSISTOR	D610	MA29WA	DIODE
Q403, Q404	2SA720NC-Q	TRANSISTOR	D701, D702 Δ	SVDS3V40	RECTIFIER
Q405	UN4111	TRANSISTOR	D703, D704 Δ	SVDS3V40	RECTIFIER
Q406	UN4215	TRANSISTOR	D705, D706 Δ	SV01SR35200A	RECTIFIER
Q501, Q502	2SK381	TRANSISTOR	D707, D708 Δ	SV01SR35200A	RECTIFIER
Q503	UN4113	TRANSISTOR	D709, D710 Δ	SV01SR35200A	RECTIFIER
Q504	UN4211	TRANSISTOR	D711 Δ	SV01SR35200A	RECTIFIER
Q601, Q602	2SC2631-Q	TRANSISTOR	D713	MA29WA	DIODE
Q604	2SA992E	TRANSISTOR	D714	MA4062-M	DIODE
Q605	UN4211	TRANSISTOR	D715	MA4300M	DIODE
Q606	2SA992E	TRANSISTOR	D716	MA4150M	DIODE
Q607, Q610	2SC3311A-Q	TRANSISTOR	D717	MA4062-H	DIODE
Q701, Q702	2SD1265-O	TRANSISTOR	D718	MA4056-M	DIODE
Q703	2SC3311A-Q	TRANSISTOR	D719, D720	MA165	DIODE
Q705	2SD1265-O	TRANSISTOR	D721, D722	MA165	DIODE
Q706, Q707	2SB941-P	TRANSISTOR	D723, D724	MA4075M	DIODE
Q708	2SC1845E	TRANSISTOR	D725, D726	MA165	DIODE
Q709	2SC1384A-R	TRANSISTOR	D727, D741	MA165	DIODE
Q711	2SD1265-O	TRANSISTOR	D751	MA4082M	DIODE
Q712, Q713	2SC3311A-Q	TRANSISTOR	D801, D802	MA165	DIODE
Q714	2SC3311A-Q	TRANSISTOR	D803, D804	MA165	DIODE
Q715, Q716	DTC143TSTP	TRANSISTOR	D806, D807	MA165	DIODE
Q718	DTC144A	TRANSISTOR	D808, D809	MA165	DIODE
Q801	2SC3311A-Q	TRANSISTOR	D817, D819	MA165	DIODE
Q802	UN4111	TRANSISTOR	D832, D833	MA165	DIODE
Q805	UN4213	TRANSISTOR	D834, D835	MA165	DIODE
Q806, Q832	UN4111	TRANSISTOR	D836, D837	MA165	DIODE
Q833, Q833	UN4211	TRANSISTOR	D838, D839	MA165	DIODE
Q834	2SC3311A-Q	TRANSISTOR	D840	MA165	DIODE
Q835, Q836	UN4111	TRANSISTOR	D841, D842	LN88RCPP	LED
Q837, Q838	UN4213	TRANSISTOR	D843, D844	LN88RCPP	LED
Q839, Q839	UN4211	TRANSISTOR	D845, D846	LN88RCPP	LED
			D847	LN88RCPP	LED

■ REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
D848	MA165	DIODE	Z302	EXBF9E104J	100KΩ X 9
D849, D850	MA4051-M	DIODE	Z303	EXBF8E104J	COMBINATION COM
D851, D852	MA4062-M	DIODE	Z304, Z305	EXBF8E103J	10KΩ X 8
D853	MA165	DIODE	Z306	EXFP8331MW	330Ω X 8
D854	MA700A	DIODE	Z307	EXBF12E104J	100KΩ X 12
D901, D902	MA165	DIODE	Z308	EXBF8E104J	COMBINATION COM
D903, D904	MA165	DIODE	FILTERS		
D905, D906	MA165	DIODE	CF201, CF202	SVFE107MS8A	CERAMIC FILTER (RED)
D907, D908	MA165	DIODE	CF203	SVFSFZ450F7L	CERAMIC FILTER
D909, D910	MA165	DIODE	X801	EF0FC2004A4	CERAMIC FILTER
D911, D912	MA165	DIODE	X802	EF0FC4004A4	COMPONENT COMBINATION
D913, D914	MA165	DIODE	X302	SVFCSB800K-M	CERAMIC FILTER
D917, D918	MA165	DIODE	OSCILLATORS		
D919, D921	MA165	DIODE	X901	SVQ49U722-S	CRYSTAL OSCILLATOR
D922, D923	MA165	DIODE	X903	SVFCSB960D	CERAMIC FILTER
D925, D926	MA165	DIODE	FRONT PACKS		
D927	MA700A	DIODE	FL901	SADBG450GK	DISPLAY TUBE
D950, D952	MA165	DIODE	SNV1	SNVFE306E15	FRONT END PACK
D955	MA4056-M	DIODE	FUSES		
D956, D957	MA165	DIODE	F1	△ XBA1F50NU14	FUSE
D958, D959	MA165	DIODE	SWITCHES		
D960	MA165	DIODE	S401	EVQQA005G	SW
VARIABLE RESISTORS			S401	SSH2132	PUSH SWITCH
VR301	EVND4AA00B53	V.R., 5KΩ(B)	S402, S403	EVQQA005G	SW
VARIABLE CAPACITORS			S404, S405	EVQQA005G	SW
CT201	ECRHA010A41	TRIMMER	S406, S407	EVQQA005G	SW
POSISTORS			S601	SSH2131	PUSH SWITCH
PS601	SRPBD47101	POSISTOR	S701	SSH1230	PUSH SWITCH
COILS AND TRANSFORMERS			S809, S810	SSG13	SW
L201	SLA2B1-M	ANTENNA COIL	S811, S812	SSG13	SW
L202	SL02B7-W	COIL	S813, S814	EVQQA005G	SW
L230	SLA9Z4-P	ANTENNA COIL	S815, S816	EVQQA005G	SW
L231	SLA4B1-Z	ANTENNA COIL	S817, S818	EVQQA005G	SW
L601, L602	SLQY07G-40	CHOKE COIL	S819, S820	EVQQA005G	SW
L701	ELEPK1R2MA	COIL	S821, S822	EVQQA005G	SW
L801, L802	ELEXT101KA	COIL	S823, S824	EVQQA005G	SW
L803, L804	ELEXT101KA	COIL	S825, S826	EVQQA005G	SW
L805	ELEXT101KA	COIL	S827, S828	EVQQA005G	SW
L901	ELEXT101KA	COIL	S829, S830	EVQQA005G	SW
L902	ELEXT101KA	COIL	S831, S832	EVQQA005G	SW
T1	SLT5P274	POWER TRANSFORMER	S901, S902	EVQQA005G	SW
T201	SL12B101-M	I.F. TRANSFORMER	S903, S904	EVQQA005G	SW
T202	SL14B511-Z	I.F. TRANSFORMER	S905, S906	EVQQA005G	SW
T203	SL14B513-Z	I.F. TRANSFORMER	S907, S908	EVQQA005G	SW
T701	△ SLT5H2	BACKUP TRANSFORMER	S909, S910	EVQQA005G	SW
COMPONENT COMBINATIONS			S911, S912	EVQQA005G	SW
Z301, Z302	EXRP181K473C	C-R COMBINATION	S913, S914	EVQQA005G	SW
Z501, Z502	EXBF8E824J	COMBINATION COM	S915, S916	EVQQA005G	SW
Z802	GPIU507M	DIODE, REMOTE SENSOR	S917	EVQQA005G	SW
Z804	EXBF9E104J	100KΩ X 9	S918	SSG13	SW
Z805	EXBF7E104J	COMBINATION COM	RELAYS		
Z806	EXBF8E104J	COMBINATION COM	RL601	SSY134	RELAY
Z901	EXFP8331MW	330Ω X 8	RL701	SSY135	RELAY

REMOTE CONTROL UNIT

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
INTEGRATED CIRCUITS			R1001	ERDS2TJ1R0	CARBON, 1Ω, 1/4W
IC1001	MN6013M	I.C.	CAPACITORS		
TRANSISTORS			C1001, C1002	ECKD1H101KB	CERAMIC, 100PF, 50V
Q1001	UN1231	TRANSISTOR	C1003	ECEA0GK101	ELECTROLYTIC CAPACITOR
DIODES			MECHANISM PARTS		
D1001	LN66	L.E.D	100	UR51VCS410	BOTTOM CASE ASS.Y
D1002, D1003	MA154WK	DIODE	101	UR51VCS409	TOP CASE ASS.Y
D1004, D1005	MA154WK	DIODE	102	UR51EC319	COVER
D1006, D1007	MA154WK	DIODE	103	UR51CT513	RUBBER SWITCH
D1008, D1009	MA154WK	DIODE	105	UR51SB320	FILTER
OSCILLATOR			106	URC180TD100	TERMINAL
X1001	CSB455EB1	455KHZ	107	UR51TD203	TERMINAL BOARD
RESISTORS			109	XSS2+10FZ	SCREW

■ REPLACEMENT PARTS LIST

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* Bracketed indications in Ref. No. columns specify the area.

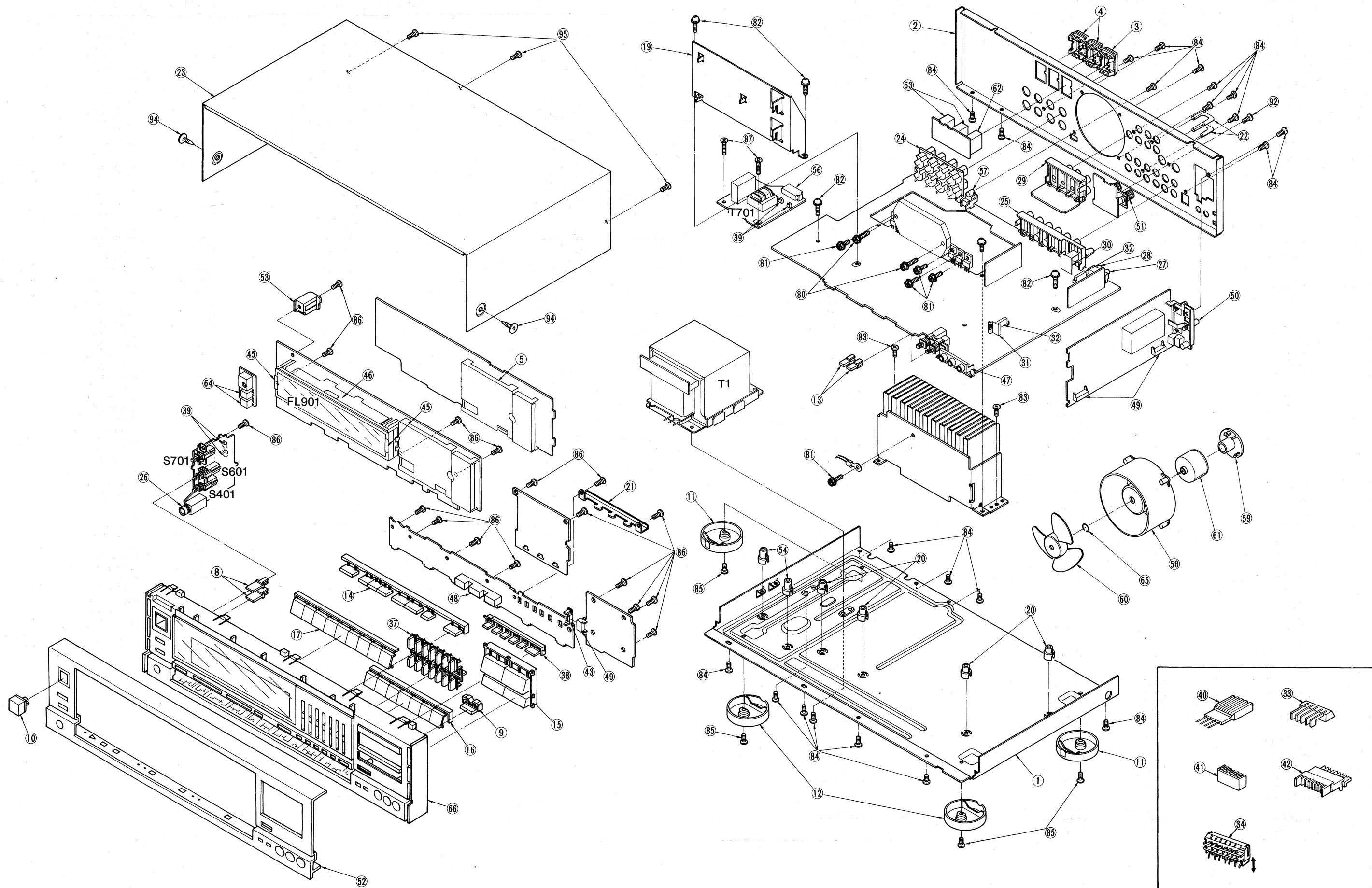
Parts without these indications can be used for all areas.

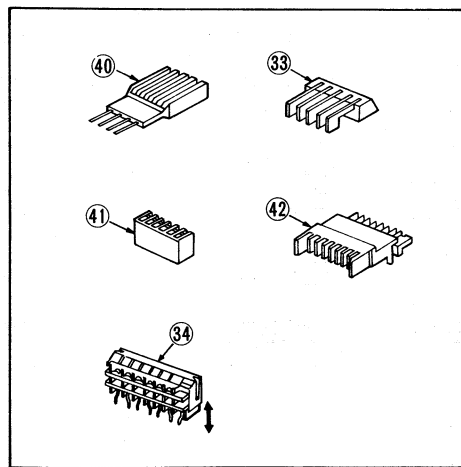
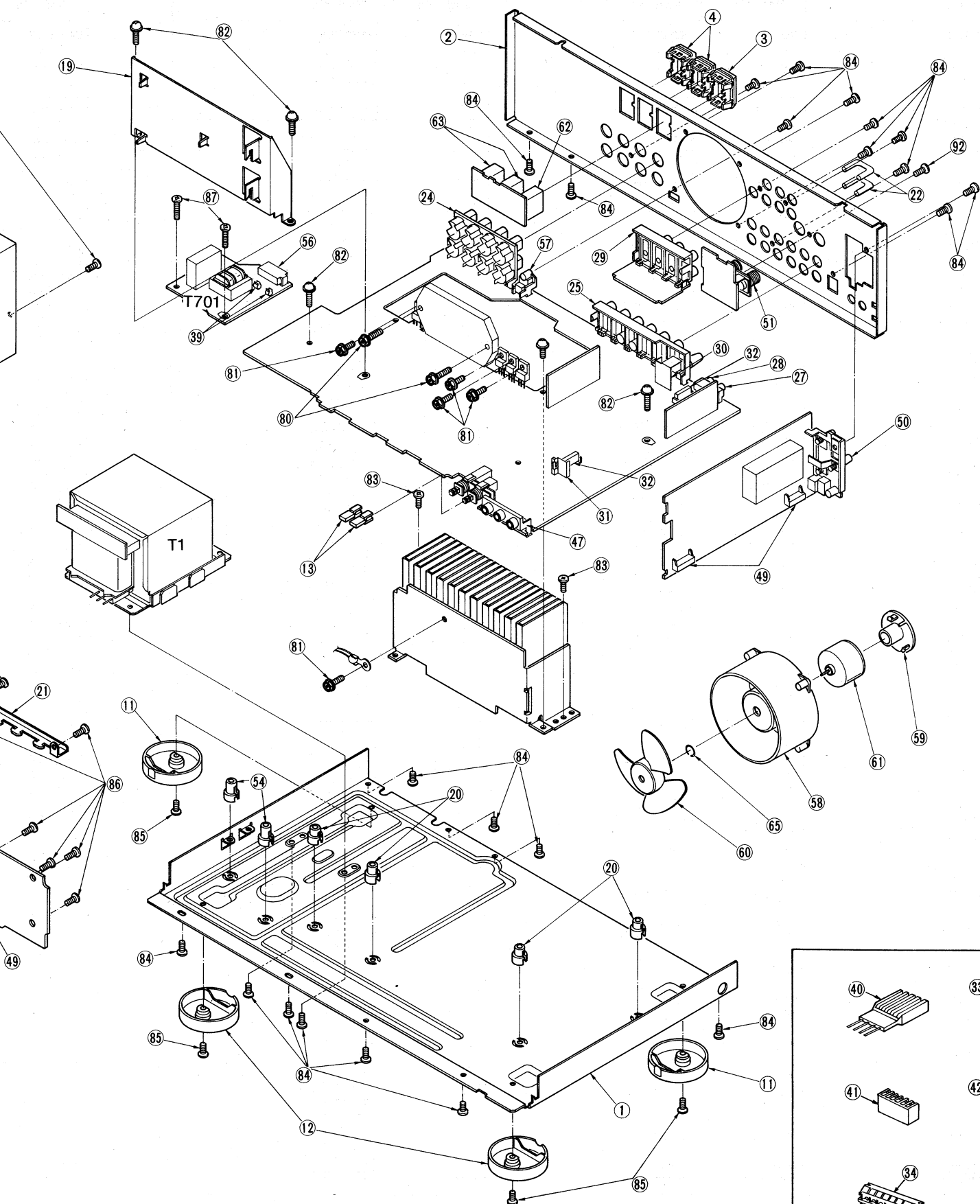
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
CABINET AND CHASSIS			41	SJT30648BB	TERMINAL PLATE
1	SKUAR410-KM	BOTTOM BOARD	41	SJT30748BB	TERMINAL PLATE
2	SGP7150B	REAR PANEL	41	SJT30948BB	TERMINAL PLATE
3	SJS9234A	AC INLET COVER	42	SJT30647WL	CONNECTOR
4	SJS9233A	AC OUTLET COVER	42	SJT30747WL	TERMINAL PLATE
5	SMC6445	SHIELD PLATE	42	SJT30947WL	CONNECTOR
8	SBC315-7	BUTTON	43	SJS50582JQH	CONNECTOR
9	SBC957	BUTTON	44	SJT30740LX-V	CONNECTOR
10	SBC666-5	BUTTON, POWER	44	SJT3213	CONNECTOR
11	SKL308	FOOT	45	SUN3078	BRACKET
12	SKL309	FOOT	46	SUN3058	BRACKET
13	SBC571-10T	BUTTON	47	SJF3063-1N	TERMINAL BOARD
14	SBC932-2B	BUTTON	48	SMC6443	SHIELD COVER
15	SBC933A	BUTTON	49	SJT30545JQ	CONNECTOR
16	SBZ691B	KNOB	49	SJT30645JQ	TERMINAL PLATE
17	SBZ691-1A	KNOB	49	SJT30745JQ	TERMINAL PLATE
19	SMC6446	SHIELD COVER	50	SJF4441	TERMINAL BOARD
20	SHE185-1	SPACER	51	SJF4228-1	TERMINAL BOARD
21	SUN3086	BRACKET	52	SYWAR510KM	FRONT PANEL (K)
22	SJP9205-2Y	SHORTING PIN	53	SHR9828	P.C.B. HOLDER
23	SKC1760K993	CABINET BODY	54	SHE181	SPACER
24	SJF4818-1	TERMINAL BOARD	56	SJS305-1	JACK SOCKET
25	SJF3059-12N	TERMINAL BOARD	57	SJS306	CONNECTOR
26	SJJ134B	JACK, HEADPHONES	58	SME95	ANGLE
27	SJJ130-3	JACK	59	SME97-1	ANGLE
28	SJJ130-2	JACK	60	SHE143	FAN
29	SJF3059-22N	TERMINAL BOARD	61	MMN6C2RKMS	DC MOTOR
30	SMC6379	SHIELD COVER	62	△ SJS9234B	AC INLET
31	SME103-4	SHIELD PLATE	63	△ SJS9233B	AC OUTLET
32	SJS50678JQ	CONNECTOR	64	SNV66	L.E.D
32	SJS50778JQ	CONNECTOR	65	SUS271	SPRING
33	SJS50680WL	CONNECTOR	66	SGXAR510-KM	FRONT PANEL ASS.Y
33	SJS50780WL	CONNECTOR	SCREWS, WASHERS AND NUTS		
33	SJS50980WL	CONNECTOR	80	SNE2118	SCREW
34	SJT30740LX-V	CONNECTOR	81	SNE2117-1	SCREW
34	SJT30840LX-V	CONNECTOR (8-P)	82	XTW3+15T	SCREW
37	SBC955A	BUTTON	83	XTW3+8T	SCREW
38	SBC956A	BUTTON	84	XTBS3+8JFZ1	SCREW
39	SJT391	LUG TERMINAL	85	XTB3+10J	SCREW
40	SJS50581BB	CONNECTOR	86	XTB3+8G	SCREW
40	SJS50681BB	CONNECTOR	87	XTB3+20J	SCREW
40	SJS50781BB	CONNECTOR	89	XTB3+8JFZ	SCREW
40	SJS50981BB	CONNECTOR	92	XTB3+8FFZ1	TAPPING SCREW
41	SJT30548BB	TERMINAL PLATE	94	SNE2129-3	ORNAMENT SCREW
41	SJT30549BB	TERMINAL PLATE	95	XTBS3+8JFZ1	SCREW

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
PACKINGS			A1	△ SJA172-1	POWER CORD
P1	SPG6096	CARTON BOX	A2	SSA269M	FM ANTENNA
P2	SPS5009	PAD	A3	SPB1152T	AM ANTENNA
P3	SPS5010	PAD	A4	SJP1108-1	CORD
P4	SPS5029	PAD	A5	SQF13035	INSTRUCTION BOOK
ACCESSORIES			A7	UM-4NEP-2S	BATTERY
			A8	SPP723	PROTECTION COVER

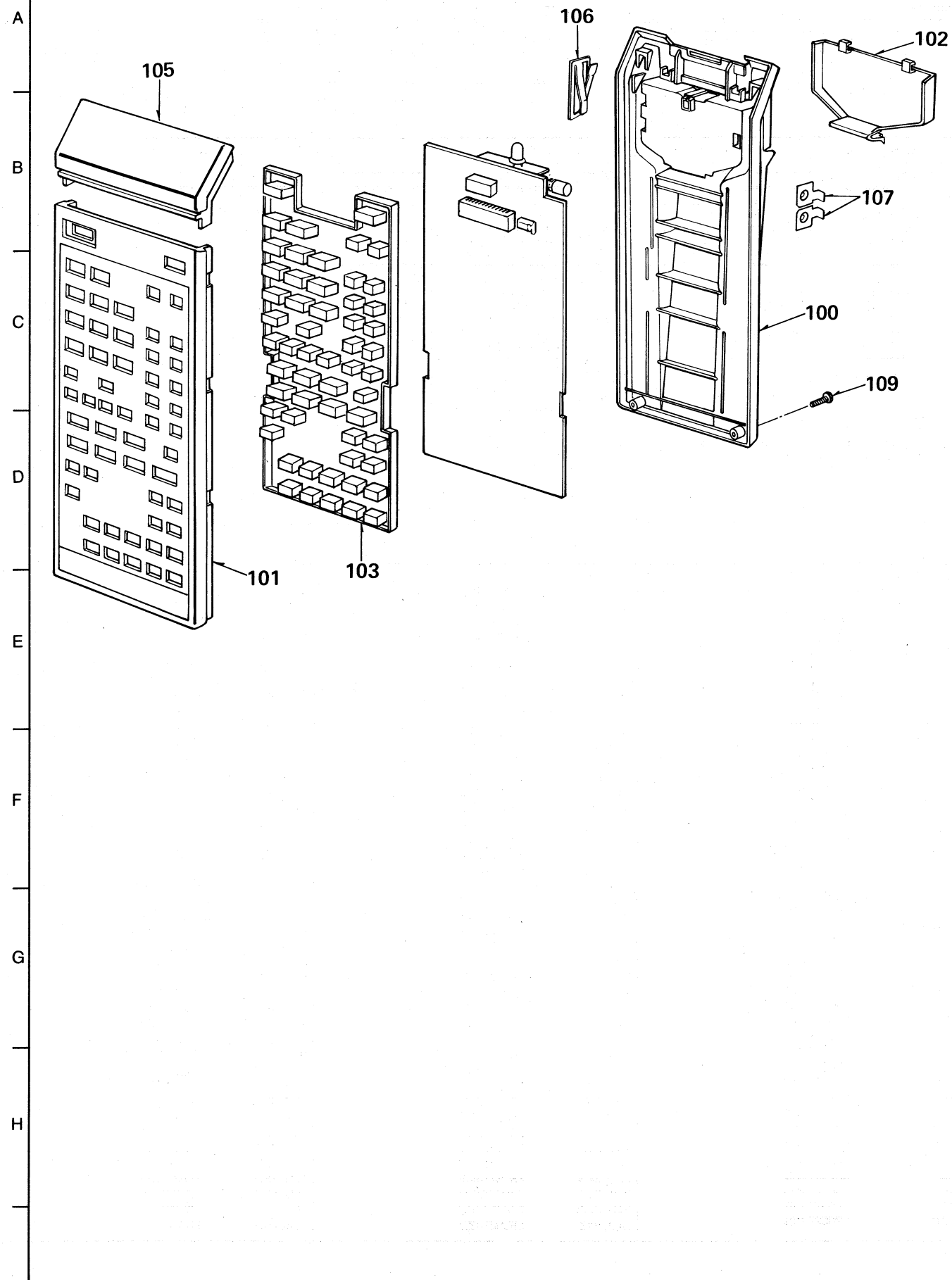
EXPLODED VIEW

• Cabinet and chassis





• Remote-control



RESISTORS & CAPACITORS

Numbering System of Resistor

Example:				
ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value (100Ω)
ERJ	6G	C	J	2R2
Type	Wattage	Shape	Tolerance	Value (2.2Ω)

Numbering System of Capacitor

Example:				
ECKD	1H	102	Z	F
Type	Voltage	Value (1000pF)	Tolerance	Peculiarity
ECEA	50	M	R47	
Type	Voltage	Peculiarity	Value (0.47 μF)	

Resistor Type	Wattage	Tolerance
ERD: Carbon Resistor	10 : 1/8W	F : ±1%
ERC: Solid Resistor	25 : 1/4W	G : ±2%
ERF: Incombustible Box-Shaped Wire-Wound Resistor	50 : 1/2W 18 : 1/8W 14 : 1/4W	J : ±5% K : ±10% M : ±20%
ERG: Metal Oxide-Film Resistor	1 : 1W 2 : 2W	
ERM: Wire-Wound Resistor	3 : 3W S1 : 1/2W	
ERO: Superstable Metal Film Resistor	S2 : 1/4W 6G : 1/10W	
ERX: Metal-Film Resistor	8G : 1/8W	
RRJ: Chip Resistor		

* Capacity are in microfarads (μF) unless specified otherwise, P=Pico-farads.
* Resistance are in ohms (Ω), unless specified otherwise, 1K=1,000Ω, 1M=1,000KΩ

Capacitor Type	Voltage	Tolerance
ECCD: Ceramic Capacitor (Chitacon)	(ECCD, ECKD Type) 1H : 50V DC 2H : 500V DC	K : ±10% M : ±20%
ECKD: Ceramic Capacitor (Chitabar)	(ECFD Type) C : 12V DC D : 25V DC	Z : +80% -20%
ECFD: Semiconductor Ceramic Capacitor (ECQ Type)	E : 50V DC	J : ±5% G : ±2%
ECE: Electrolytic Capacitor	05 : 50WV DC 1 : 100WV DC	F : ±1% C : ±0.25pF
ECS: Tantalum Fixed Electrolytic Capacitor	(ECE, ECS Type) 0G : 4V 0J : 6.3V	D : ±0.5pF
ECQ: Polystyrene Film Capacitor	1A : 10V 1C : 18V 1E : 25V 1V : 35V 1H : 50V 1J : 83V	
ECQS: Polystyrene Film Capacitor	2A : 100V	
ECQV: Polypropylene Film Capacitor		
ECU: T.F. Capacitor		
RCU: Chip Capacitor		
ECBT: Cylindrical Ceramic Capacitor		

Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.
RESISTORS					
R1, R2	ERDS2TJ391	R231	ERDS2TJ821	R423, R424	ERDS2TJ272
R3, R4	ERDS2TJ224	R232	ERDS2TJ122	R425	ERDS2TJ104
R5, R6	ERDS2TKG5622	R233	ERDS2TJ684	R427	ERDS2TJ222
R7, R8	ERDS2TJ271	R234	ERDS2TJ103	R428	ERDS2TJ122
R9, R10	ERDS2TJ680	R235	ERDS2TJ471	R429, R430	ERDS2TJ330
R11, R12	ERDS2TJ184	R236	ERDS2TJ153	R431, R432	ERDS2TJ272
R13, R14	ERDS2TJ123	R237	ERDS2TJ221	R433, R434	ERDS1FJ680
R15, R16	ERDS2TJ563	R238	ERDS2TJ222	R435, R436	ERDS1FJ680
R17, R18	ERDS2TJ102	R240, R241	ERDS2TJ472	R437, R438	ERDS2TJ680
R71, R72	ERDS2TJ334	R242, R242	ERDS2TJ332	R441, R442	ERDS2TJ680
R73, R74	ERDS2TJ102	R243, R243	ERDS2TJ332	R445	ERDS2TJ563
R75, R76	ERDS2TJ124	R244, R245	ERDS2TJ472	R446, R447	ERDS2TJ474
R77, R78	ERDS2TJ103	R246, R246	ERDS2TJ332	R448	ERDS2TJ473
R79, R80	ERDS2TJ220	R247, R247	ERDS2TJ332	R449, R450	ERDS2TJ333
R201	ERDS2TJ332	R248	ERDS2TJ103	R451, R452	ERDS2TJ333
R202	ERDS2TJ474	R249	ERDS2TJ272	R453, R454	ERDS2TJ333
R203	ERDS2TJ122	R250	ERDS2TJ472	R455, R456	ERDS2TJ222
R204	ERDS2TJ824	R251	ERDS2TJ221	R457, R458	ERDS2TJ104
R205	ERDS2TJ271	R252	ERDS2TJ102	R459, R460	ERDS2TJ472
R206	ERDS2TJ561	R253	ERDS2TJ330	R461, R462	ERDS2TJ103
R207	ERDS2TJ822	R254, R255	ERDS2TJ473	R463, R464	ERDS2TJ104
R208	ERDS2TJ102	R256	ERDS2TJ330	R465	ERDS2TJ103
R209	ERDS2TJ471	R264	ERDS2TJ103	R466	ERDS2TJ223
R212	ERDS2TJ153	R301	ERDS2TJ183	R467	ERDS2TJ103
R213	ERDS2TJ104	R302	ERDS2TJ151	R468	ERDS2TJ223
R214	ERDS2TJ824	R303, R304	ERDS2TJ223	R469	ERDS2TJ103
R215	ERDS2TJ103	R305, R306	ERDS2TJ272	R470	ERDS2TJ223
R216	ERDS2TJ563	R307, R308	ERDS2TJ104	R471, R472	ERDS2TJ104
R217	ERDS2TJ223	R309	ERDS2TJ224	R473, R474	ERDS2TJ103
R218	ERDS2TJ123	R310	ERDS2TJ103	R475	ERDS2TJ103
R219	ERDS2TJ562	R311	ERDS2TJ102	R477, R478	ERDS2TJ563
R220	ERDS2TJ103	R312	ERDS2TJ153	R480, R481	ERDS2TJ332
R221	ERDS2TJ104	R313	ERDS2TJ103	R482, R483	ERDS2TJ822
R222	ERDS2TJ473	R315, R316	ERDS2TJ271	R484	ERDS2TJ332
R223	ERDS2TJ224	R401, R402	ERDS2TJ563	R501, R502	ERDS2TJ154
R225	ERDS2TJ104	R403, R404	ERDS2TJ563	R503, R504	ERDS2TJ563
R226	ERDS2TJ332	R407, R408	ERDS2TJ152	R505, R506	ERDS2TJ472
R227	ERDS2TJ333	R409, R410	ERDS2TJ152	R507, R508	ERDS2TJ223
R228	ERDS2TJ123	R411, R412	ERDS2TJ102	R509, R510	ERDS2TJ224
R229	ERDS2TJ102	R413, R414	ERDS2TJ470	R511, R512	ERDS2TJ104
R230	ERDS2TJ104	R415, R416	ERDS2TJ273	R513, R514	ERDS2TJ562
		R417, R418	ERDS2TJ102	R515	ERDS2TJ683
		R421, R422	ERDS2TJ820	R516, R517	ERDS2TJ563

RESISTORS & CAPACITORS

Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.
R518	ERDS2TJ473	R801	ERDS2TJ103	R959	ERDS2TJ681
R521, R522	ERDS2TJ224	R802	ERDS2TJ104	R960	ERDS2TJ563
R523, R524	ERDS2TJ223	R803	ERDS2TJ101	R961, R962	ERDS2TJ103
R581, R581	ERDS2TJ682	R804	ERDS2TJ681	R963	ERDS2TJ564
R582, R582	ERDS2TJ682	R805	ERDS2TJ472	R964	ERDS2TJ104
R583, R584	ERDS2TJ224	R806, R807	ERDS2TJ122	R965	ERDS2TJ103
R585, R586	ERDS2TJ224	R808	ERDS2TJ122	CAPACITORS	
R587, R587	ERDS2TJ682	R809, R810	ERDS2TJ103	C1, C2	ECEA1HK3R3
R588, R588	ERDS2TJ682	R811, R813	ERDS2TJ103	C3, C4	RCBS1H101KB
R589, R590	ERDS2TJ101	R814, R815	ERDS2TJ103	C5, C6	ECKD1H102KB
R591, R592	ERDS2TJ222	R816, R817	ERDS2TJ103	C7, C8	ECQM1H223JZ
R593	ERDS2TJ391	R818	ERDS2TJ103	C9, C10	ECQM1H682JZ
R594	ERDS2TJ102	R820	ERDS2TJ104	C11, C12	ECEA1HN010
R595, R596	ERDS2TJ470	R821	ERDS2TJ103	C13, C14	ECEA0JK330
R597, R598	ERDS2TJ104	R822	ERDS2TJ104	C17, C72	ECEA1HJ3R3
R601, R602	ERDS2TJ392	R823, R824	ERDS2TJ103	C73, C74	RCBS1H390JLY
R603, R604	ERDS2TJ681	R826	ERDS2TJ103	C75, C76	RCBS1H820KB
R605, R606	ERDS2TJ124	R827	ERDS2TJ105	C77, C78	RCBS1H391KB
R607, R608	ERDS2TJ101	R829	ERDS2TJ103	C201, C202	ECKD1H103PF
R609, R610	ERDS2TJ152	R832	ERDS2TJ824	C204	ECCD1H150KC
R611, R612	ERDS2TJ393	R833, R834	ERDS2TJ124	C205	ECKD1H223PF
R613, R614	ERDS2TJ103	R835, R836	ERDS2TJ124	C206	ECCD1H080CC
R615, R616	ERDS2TJ100	R837, R838	ERDS2TJ124	C207	ECCD1H470K
R617, R618	ERDS1FJ100	R839	ERDS2TJ124	C208	ECEA0JU101
R619, R620	ERDS2TJ223	R840, R841	ERDS2TJ392	C209	ECEA1HK3R3
R621, R622	ERDS2TJ223	R842, R843	ERDS2TJ392	C210, C211	ECKD1H223PF
R623	ERDS2TJ392	R844, R845	ERDS2TJ392	C212	ECKD1H223PF
R624	ERDS2TJ123	R846	ERDS2TJ392	C213	ECCD1H101K
R625, R626	ERDS2TJ683	R847, R848	ERDS2TJ473	C214	ECEA1CKS100
R627	ERDS2TJ183	R849, R850	ERDS2TJ473	C215	ECKD1H103PF
R628	ERDS2TJ104	R851, R852	ERDS2TJ473	C216	ECEA1HKR47
R629, R630	ERG2ANJ331	R853	ERDS2TJ473	C217	ECEA1HK010
R631, R632	ERDS1FJ181	R854	ERDS2TJ330	C218	ECKD1H103PF
R633	ERDS2FJ470	R856	ERDS2TJ103	C219	ECEA1HK010
R635	ERDS2TJ103	R859, R859	ERDS2TJ332	C220	ECEA1HK2R2B
R638	ERDS2TJ473	R865, R866	ERDS2TJ103	C221	ECFTD183KXL
R639	ERDS1FJ271	R867	ERDS2TJ102	C222	ECQM1H473JZ
R640, R641	ERDS2TJ103	R869	ERDS2TJ183	C223	ECCD1H100KC
R642	ERDS2TJ333	R870, R871	ERDS2TJ103	C224	ECQP1471JZ
R643	ERDS2TJ223	R873, R873	ERDS2TJ821	C225	ECCD1H180KC
R644	ERDS2TJ103	R874	ERDS2TJ104	C226	ECKD1H103PF
R645	ERDS1FJ221	R875	ERDS2TJ472	C227	ECEA1CKS100
R646	ERDS2TJ470	R877	ERDS2TJ823	C230, C231	ECKD1H102KB
R647	ERDS2TJ562	R878	ERDS2TJ683	C232, C233	ECKD1H102KB
R648, R653	ERDS2TJ103	R879	ERDS2TJ104	C234	ECKD1H102KB
R654	ERDS2TJ273	R880, R881	ERDS2TJ473	C235	RCBS1H100JCY
R655	ERDS2TJ103	R882	ERDS2TJ473	C236	RCBS1H220JLY
R701, R702	ERDS1FJ180	R883	ERDS1FJ220	C237, C238	ECKD1H102KB
R703	ERDS2TJ102	R904, R905	ERDS2TJ103	C240, C241	ECKD1H102KB
R704	ERDS2TJ271	R906	ERDS2TJ101	C242	ECKD1H102KB
R705	ERDS1FJ3R3	R907	ERDS2TJ151	C243	RCBS1H2R2KLY
R707, R708	ERDS2TJ1R2	R908	ERDS2TJ102	C244, C245	ECKD1H102KB
R709	ERDS2TJ272	R909	ERDS2TJ561	C301	ECEA1CU101
R710	ERDS2TJ222	R910	ERDS2TJ103	C302	ECEA1HKR47
R711	ERDS2TJ272	R911	ERDS2TJ562	C303	ECEA1HK010
R712, R713	ERDS2FJ150	R912	ERDS2TJ223	C304, C305	ECEA1HK3R3
R714	ERDS2TJ121	R913	ERDS2TJ681	C306	ECEA1HK3R3
R715, R716	ERDS2TJ682	R914, R915	ERDS2TJ104	C307, C308	ECFTD273KXL
R717	ERDS1FJ330	R916, R917	ERDS2TJ104	C309	ECKD1H103PF
R719	ERDS2TJ392	R918, R919	ERDS2TJ562	C310	ECFTD473KXL
R720	ERDS2TJ102	R920	ERDS2TJ105	C311	ECQP1471JZ
R721	ERDS2TJ150	R921	ERDS2TJ474	C312	ECEA1VK4R7
R722	ERDS2TJ472	R922	ERDS2TJ222	C401, C402	ECEA1EK3R3
R724	ERDS2TJ562	R923	ERDS2TJ123	C405, C406	ECEA1CKS100
R725	ERDS2TJ272	R924	ERDS2TJ563	C407, C408	ECC1H221K
R726, R727	ERDS2TJ472	R927, R928	ERDS2TJ103	C409	ECKD1H103PF
R729	ERDS2TJ333	R929	ERDS2TJ224	C420	ECEA0JU101
R730	ERDS2TJ472	R930	ERDS2TJ103	C421	ECEA10V1000
R731, R732	ERDS2TJ103	R931	ERDS2TJ151	C422	ECKD1H103PF
R733	ERDS2TJ103	R933	ERDS2TJ683	C423	ECEA10V1000
R734, R735	ERDS2TJ472	R936	ERDS2TJ103	C424, C425	ECEA0JK470
R736	ERDS2TJ393	R937	ERDS2TJ104	C426	ECEA1HK010
R737, R738	ERDS2TJ331	R939, R940	ERDS2TJ103	C433, C434	ECCD1H101K
R739	ERDS2TJ153	R941, R942	ERDS2TJ103		
R742	ERDS2TJ103	R951, R952	ERDS2TJ104		
R751, R752	ERDS2TJ101	R953	ERDS2TJ104		
R791	ERC12ZGK335	R957, R958	ERDS2TJ333		

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C435, C436
C437, C438
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C621

RESISTORS & CAPACITORS

Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.
R518	ERDS2TJ473	R801	ERDS2TJ103	R959	ERDS2TJ681
R521, R522	ERDS2TJ224	R802	ERDS2TJ104	R960	ERDS2TJ563
R523, R524	ERDS2TJ223	R803	ERDS2TJ101	R961, R962	ERDS2TJ103
R581, R581	ERDS2TJ682	R804	ERDS2TJ681	R963	ERDS2TJ564
R582, R582	ERDS2TJ682	R805	ERDS2TJ472	R964	ERDS2TJ104
R583, R584	ERDS2TJ224	R806, R807	ERDS2TJ122	R965	ERDS2TJ103
R585, R586	ERDS2TJ224	R808	ERDS2TJ122	CAPACITORS	
R587, R587	ERDS2TJ682	R809, R810	ERDS2TJ103	C1, C2	ECEA1HK3R3
R588, R588	ERDS2TJ682	R811, R813	ERDS2TJ103	C3, C4	RCBS1H101KBY
R589, R590	ERDS2TJ101	R814, R815	ERDS2TJ103	C5, C6	ECKD1H102KB
R591, R592	ERDS2TJ222	R816, R817	ERDS2TJ103	C7, C8	ECQM1H223JZ
R593	ERDS2TJ391	R818	ERDS2TJ103	C9, C10	ECQM1H682JZ
R594	ERDS2TJ102	R820	ERDS2TJ104	C11, C12	ECEA1HN010
R595, R596	ERDS2TJ470	R821	ERDS2TJ103	C13, C14	ECEA0JK330
R597, R598	ERDS2TJ104	R822	ERDS2TJ104	C71, C72	ECEA1H03R3
R601, R602	ERDS2TJ392	R823, R824	ERDS2TJ103	C73, C74	RCBS1H390JLY
R603, R604	ERDS2TJ681	R826	ERDS2TJ103	C75, C76	RCBS1H220KBY
R605, R606	ERDS2TJ124	R827	ERDS2TJ105	C77, C78	RCBS1H391KBY
R607, R608	ERDS2TJ101	R829	ERDS2TJ103	C201, C202	ECKD1H103PF
R609, R610	ERDS2TJ152	R832	ERDS2TJ824	C204	ECCD1H150KC
R611, R612	ERDS2TJ393	R833, R834	ERDS2TJ124	C205	ECKD1H223PF
R613, R614	ERDS2TJ103	R835, R836	ERDS2TJ124	C206	ECCD1H080CC
R615, R616	ERDS2TJ100	R837, R838	ERDS2TJ124	C207	ECCD1H470K
R617, R618	ERDS1FJ100	R839	ERDS2TJ124	C208	ECEA0JU101
R619, R620	ERDS2TJ223	R840, R841	ERDS2TJ392	C209	ECEA1HK3R3
R621, R622	ERDS2TJ223	R842, R843	ERDS2TJ392	C210, C211	ECKD1H223PF
R623	ERDS2TJ392	R844, R845	ERDS2TJ392	C212	ECCD1H101K
R624	ERDS2TJ123	R846	ERDS2TJ392	C214	ECEA1CKS100
R625, R626	ERDS2TJ683	R847, R848	ERDS2TJ473	C215	ECKD1H103PF
R627	ERDS2TJ183	R849, R850	ERDS2TJ473	C216	ECEA1HKR47
R628	ERDS2TJ104	R851, R852	ERDS2TJ473	C217	ECEA1HK010
R629, R630	ERG2ANJ331	R853	ERDS2TJ473	C218	ECKD1H103PF
R631, R632	ERDS1FJ181	R854	ERDS2TJ330	C219	ECEA1HK010
R633	ERDS2FJ470	R856	ERDS2TJ103	C220	ECEA1HK2R2B
R635	ERDS2TJ103	R859, R859	ERDS2TJ332	C221	ECFTD183KXL
R638	ERDS2TJ473	R865, R866	ERDS2TJ103	C222	ECQM1H473JZ
R639	ERDS1FJ271	R867	ERDS2TJ102	C223	ECCD1H100KC
R640, R641	ERDS2TJ103	R869	ERDS2TJ183	C224	ECQP1471JZ
R642	ERDS2TJ333	R870, R871	ERDS2TJ103	C225	ECCD1H180KC
R643	ERDS2TJ223	R873, R873	ERDS2TJ821	C226	ECKD1H103PF
R644	ERDS2TJ103	R874	ERDS2TJ104	C227	ECEA1CKS100
R645	ERDS1FJ221	R875	ERDS2TJ472	C230, C231	ECKD1H102KB
R646	ERDS2FJ470	R877	ERDS2TJ823	C232, C233	ECKD1H102KB
R647	ERDS2TJ562	R878	ERDS2TJ683	C234	ECKD1H102KB
R648, R653	ERDS2TJ103	R879	ERDS2TJ104	C235	RCBS1H100JCY
R654	ERDS2TJ273	R880, R881	ERDS2TJ473	C236	RCBS1H220JLY
R655	ERDS2TJ103	R882	ERDS2TJ473	C237, C238	ECKD1H102KB
R701, R702	ERDS1FJ1R0	R883	ERDS1FJ220	C240, C241	ECKD1H102KB
R703	ERDS2TJ102	R904, R905	ERDS2TJ103	C242	ECKD1H102KB
R704	ERDS2TJ271	R906	ERDS2TJ101	C243	RCBS1H2R2KLY
R705	ERDS1FJ3R3	R907	ERDS2TJ151	C244, C245	ECKD1H102KB
R707, R708	ERDS2TJ1R2	R908	ERDS2TJ102	C301	ECEA1CU101
R709	ERDS2TJ272	R909	ERDS2TJ561	C302	ECEA1HKR47
R710	ERDS2TJ222	R910	ERDS2TJ103	C303	ECEA1HK010
R711	ERDS2TJ272	R911	ERDS2TJ562	C304, C305	ECEA1HK3R3
R712, R713	ERDS2FJ150	R912	ERDS2TJ223	C306	ECEA1HK3R3
R714	ERDS2TJ121	R913	ERDS2TJ681	C307, C308	ECFTD273KXL
R715, R716	ERDS2TJ682	R914, R915	ERDS2TJ104	C309	ECKD1H103PF
R717	ERDS1FJ330	R916, R917	ERDS2TJ104	C310	ECFTD473KXL
R719	ERDS2TJ392	R918, R919	ERDS2TJ562	C311	ECQP1471JZ
R720	ERDS2TJ102	R920	ERDS2TJ105	C312	ECEA1VK4R7
R721	ERDS2TJ150	R921	ERDS2TJ474	C401, C402	ECEA1EK3R3
R722	ERDS2TJ472	R922	ERDS2TJ222	C405, C406	ECEA1CKS100
R724	ERDS2TJ562	R923	ERDS2TJ123	C407, C408	ECCD1H221K
R725	ERDS2TJ272	R924	ERDS2TJ563	C409	ECKD1H103PF
R726, R727	ERDS2TJ472	R927, R928	ERDS2TJ103	C420	ECEA0JU101
R729	ERDS2TJ333	R929	ERDS2TJ224	C421	ECEA10V1000
R730	ERDS2TJ472	R930	ERDS2TJ103	C422	ECKD1H103PF
R731, R732	ERDS2TJ103	R931	ERDS2TJ151	C423	ECEA0JU101
R733	ERDS2TJ103	R933	ERDS2TJ683	C424, C425	ECBS1H120JCY
R734, R735	ERDS2TJ472	R936	ERDS2TJ103	C426	ECEA0JK470
R736	ERDS2TJ393	R937	ERDS2TJ104	C431, C432	ECEA1HK010
R737, R738	ERDS2TJ331	R939, R940	ERDS2TJ103	C433, C434	ECCD1H101K
R739	ERDS2TJ153	R941, R942	ERDS2TJ103		
R742	ERDS2TJ103	R951, R952	ERDS2TJ104		
R751, R752	ERDS2TJ101	R953	ERDS2TJ104		
R791	ERC12ZGK335	R957, R958	ERDS2TJ333		

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Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.
C435, C436	ECCD1H680K	C622	ECEA1HS330	C845	ECKD1H561KB
C437, C438	ECEA1HK010	C623	ECEA1EU101	C845	ECQV1H104JZ
C439, C440	ECCD1H101K	C624	ECKD1H103PF	C846	ECKD1H561KB
C441	ECFTD223KXL	C627	ECEA1CKS100	C846	ECQV1H104JZ
C442	ECFTD102KXL	C628	ECEA1EK4R7	C847	ECFTD183KXL
C443, C444	ECEA1EK3R3	C629	ECEA1HKS3R3	C847	ECFTD272KXL
C445, C446	ECEA1EK3R3	C630	ECEA1CKS100	C848	ECFTD183KXL
C447, C448	ECCD1H120KC	C631	ECEA1VKS100	C848	ECFTD272KXL
C449, C450	ECKD1H103PF	C633, C634	ECCD1H181K	C849, C850	ECFTD682KXL
C451, C452	ECKD1H103PF	C701, C702	ECEA1V822JY	C851, C852	ECFTD122KXL
C453, C454	ECKD1H103PF	C703	ECEA1VU222	C853, C854	ECKD1H561KB
C455	ECKD1H103PF	C704	ECKD2H103PE	C855	ECEA1HK010
C456	ECEA0JS221	C705	ECKD1H103PF	C856	ECFTD183KXL
C490	ECEA1CKS100	C706	ECEA1EK470	C856	ECFTD272KXL
C501, C502	ECFTD223KXL	C707	ECEA1VU471	C857	ECFTD183KXL
C503, C504	ECCD1H330K	C708	ECKD1H103PF	C857	ECFTD272KXL
C505, C506	ECEA1CKS100	C709	ECEA1CU101	C858	ECFTD122KXL
C507, C508	ECCD1H010CC	C710	ECEA1CU471	C858	ECFTD473KXL
C509, C510	ECEA1EK3R3	C711	ECEA0JU101	C859	ECFTD122KXL
C511, C512	ECEA1CU470	C712, C713	ECKD1H103PF	C859	ECFTD473KXL
C513, C514	ECKD1H103PF	C714	ECEA1VU470	C862	ECEA0JU471
C515	ECEA1HK0R1	C715	ECEA1CU101	C863	ECEA1CK220
C516	ECKD1H103PF	C716	ECKD1H103PF	C864	ECEA1HKR47
C551, C552	ECEA1EKS3R3	C717	ECEA1CU470	C865	ECEA1CU101
C553, C554	ECEA1EK3R3	C718	ECKD1H103PF	C867, C867	ECKD1H103PF
C555, C556	ECEA1EK3R3	C719	ECEA1CU100	C868	ECKD1H331KB
C557, C558	ECKD1H561KB	C720	ECKD1H103PF	C901, C902	RCBS1H150JCY
C559, C560	ECFTD392KXL	C721	ECEA1CKS100	C904	ECCD1H181K
C561, C562	ECFTD182KXL	C722, C723	ECKD1H103PF	C905	ECEA0JS221
C563, C564	ECFTD682KXL	C725, C726	ECEA1CKS100	C906	ECEA1CU330
C565, C566	ECFTD332KXL	C727	ECEA1VK100	C907	ECKD1H103PF
C567, C568	ECFTD183KXL	C728	ECEA0JU471	C908	ECEA25MAR7R
C569, C570	ECFTD822KXL	C729	ECEA1EU101	C909	ECKD1H223PF
C571, C572	ECFTD473KXL	C730	ECEA1CKS100	C910	ECKD1H102KB
C573, C574	ECFTD223KXL	C731	ECKD1H103PF	C911	ECKD1H103PF
C575, C576	ECQV1H124JZ	C732	ECEA1VK220	C912	ECEA5RSU473
C577, C578	ECFTD563KXL	C733	ECEA1HK2R2B	C913	ECEA1HK3R3
C579, C580	ECEA1HKR33	C751	ECEA1HK3R3	C914, C915	ECCD1H101K
C581, C582	ECEA1HKR15	C753, C754	ECQV1H104JZ	C916	ECEA1HKR47
C583, C584	ECEA1HKR68	C791	ECKDKC103PF2	C917	ECEA1HKR22
C585, C586	ECEA1HKR33	C801	ECEA1HK2R2B	C918, C919	ECCD1H181K
C589, C590	ECEA1EK3R3	C802	ECEA5RSU473	C920	ECKD1H103PF
C591, C592	ECEA1ES330	C803	ECEA1H010	C921	ECEA0JU101
C593, C594	ECEA1CKS100	C804	ECEA1HK010	C923	ECKD1H331KB
C595	ECEA1CKS100	C805	ECEA1HKR47	C924	ECEA1HK010
C596	ECEA1EU470	C810	ECEA0JKS470	C925, C926	ECKD1H331KB
C601, C602	ECEA1CKS100	C811	ECKD1H103PF	C927	ECEA0JU101
C603, C604	ECKD1H221KB	C814	ECEA1HKS010	C928	ECEA1HK2R2B
C605, C606	ECCD1H080CC	C816	ECFTD152KXL	C929, C930	ECKD1H103PF
C607, C608	ECCD1H100KC	C817	ECKD1H103PF	C931	ECEA0JS221
C609, C610	ECCD1H180KC	C818	ECEA1CU470	C934	ECKD1H223PF
C611, C612	ECEA1HK010	C819	ECEA1HKS47	C950	ECEA0JKS470
C613, C614	ECCD2H101K	C837, C838	ECEA1CKS100	C951, C952	ECKD1H103PF
C615, C616	ECCD2H101K	C839, C840	ECEA1CKS100	C953	ECKD1H103PF
C617, C618	ECKD1H223PF	C841, C842	ECEA1CKS100	C956	ECEA1HKS0R1
C619, C620	ECEA2AU100	C843	ECEA1CKS100	C957	ECEA0JKS470
C621	ECEA2AU100	C844	ECEA1EK3R3	C957	ECEA0JK470
				C958	ECEA0JU101

FM OFF-SET VOLTAGE (0mV)

TERMINAL(VCR I) P.C.B.

EQUALIZER LEVEL CONTROL P.C.B.

B TERMINAL(CA TV/CA FM)
P.C.B.

The diagram illustrates the rear panel layout of a radio receiver. Key components and their locations are as follows:

- Connectors:** J601, J602, J604, J701, J702, J703, and J704 are located along the top edge of the chassis.
- Resistors:** R630 and R629 are located on the left side of the chassis.
- Switches:** The REMOTE, MAIN, and POWER switches are located at the bottom of the chassis. The REMOTE and MAIN switches are labeled with "on" and "off" positions.
- Speakers:** The SPEAKERS are located at the bottom center of the chassis.
- Phones:** The PHONES jack is located at the bottom left of the chassis.

N

POWER
SUPPLY /
RELAY
DRIVE P.C.B.

FI 125V 5A

1

2

3

T701

RL701

C791

R791

J703

C725

R724

C726

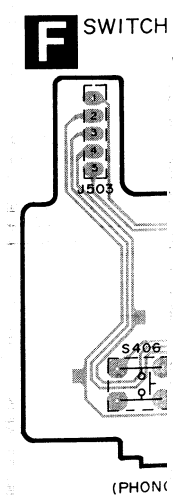
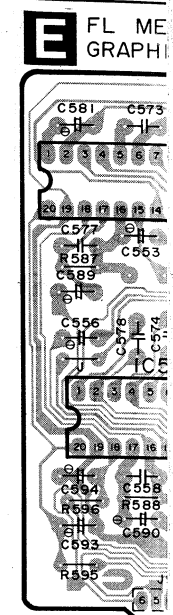
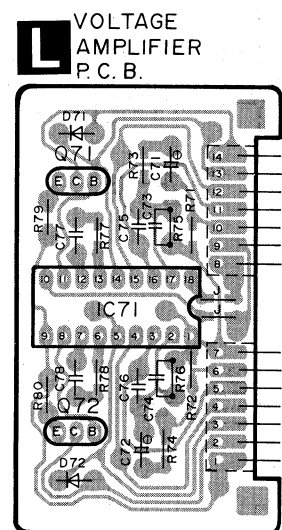
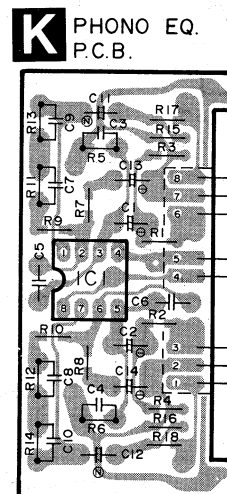
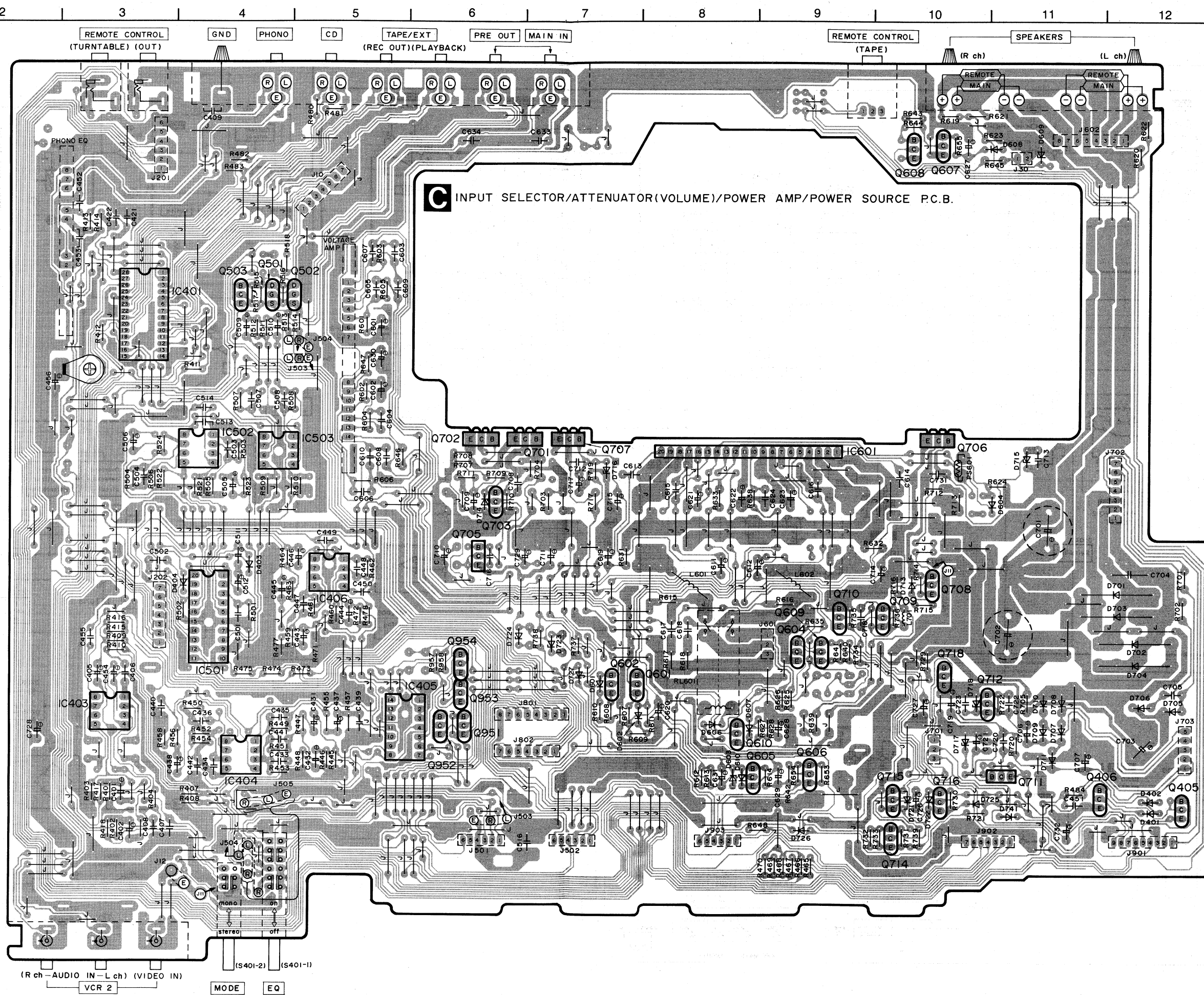
R725

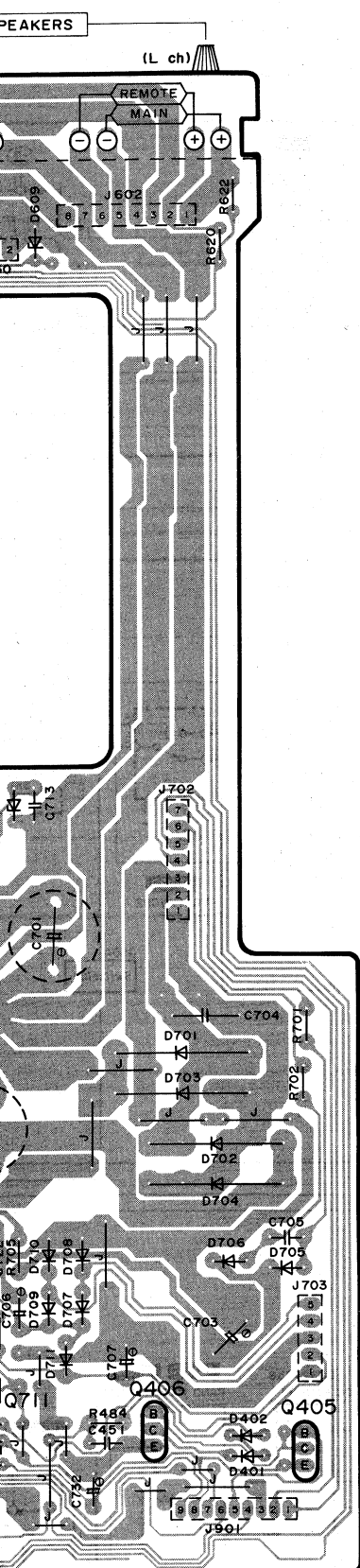
C727

R728

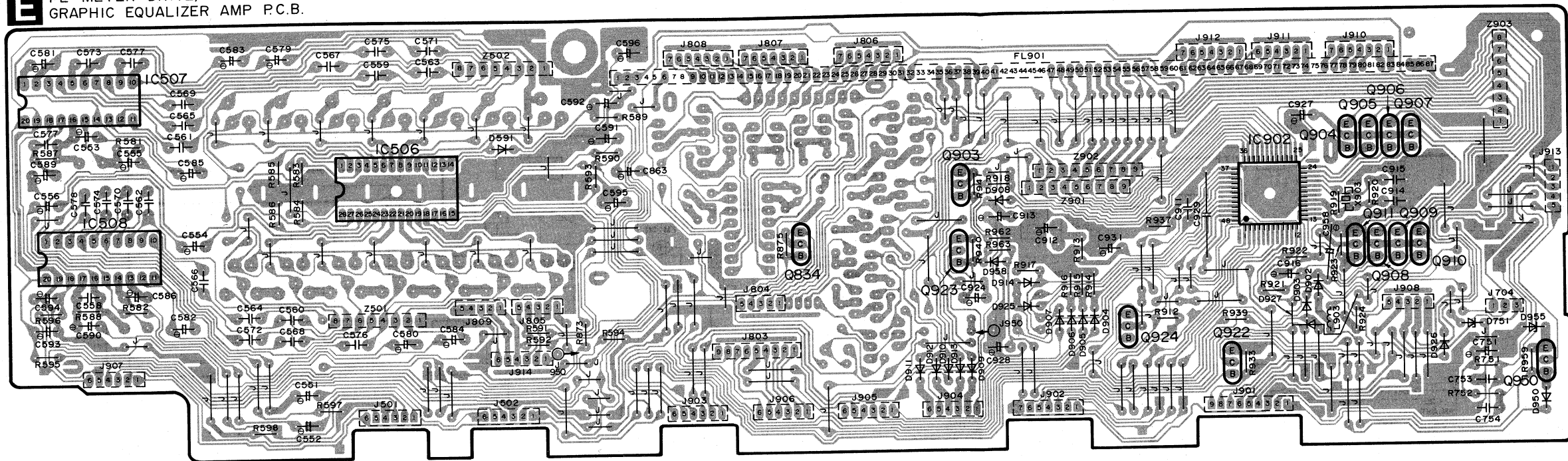
Q713

D720

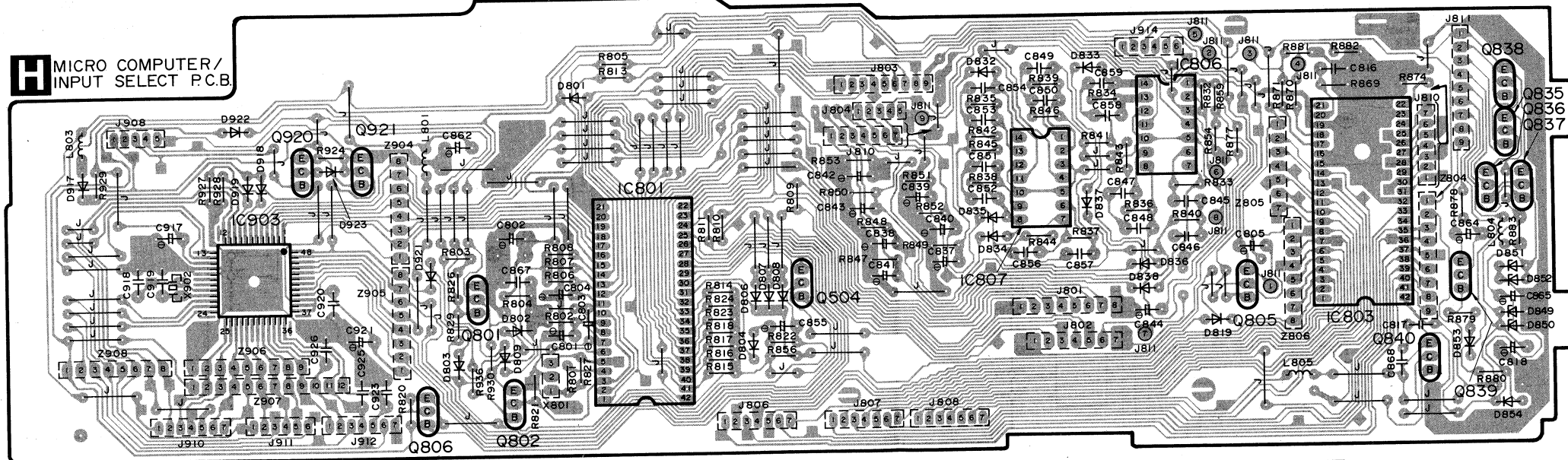




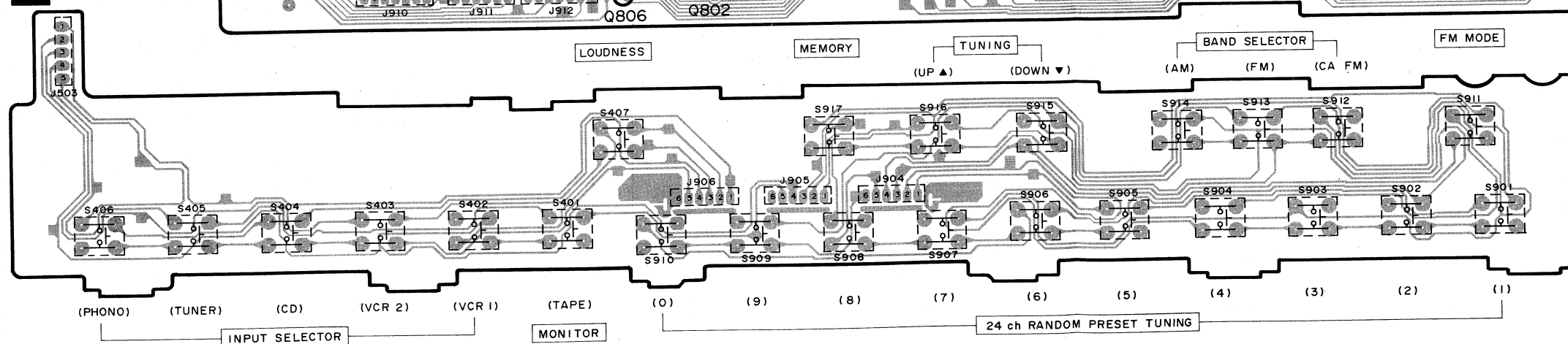
E FL METER DRIVE/
GRAPHIC EQUALIZER AMP P.C.B.

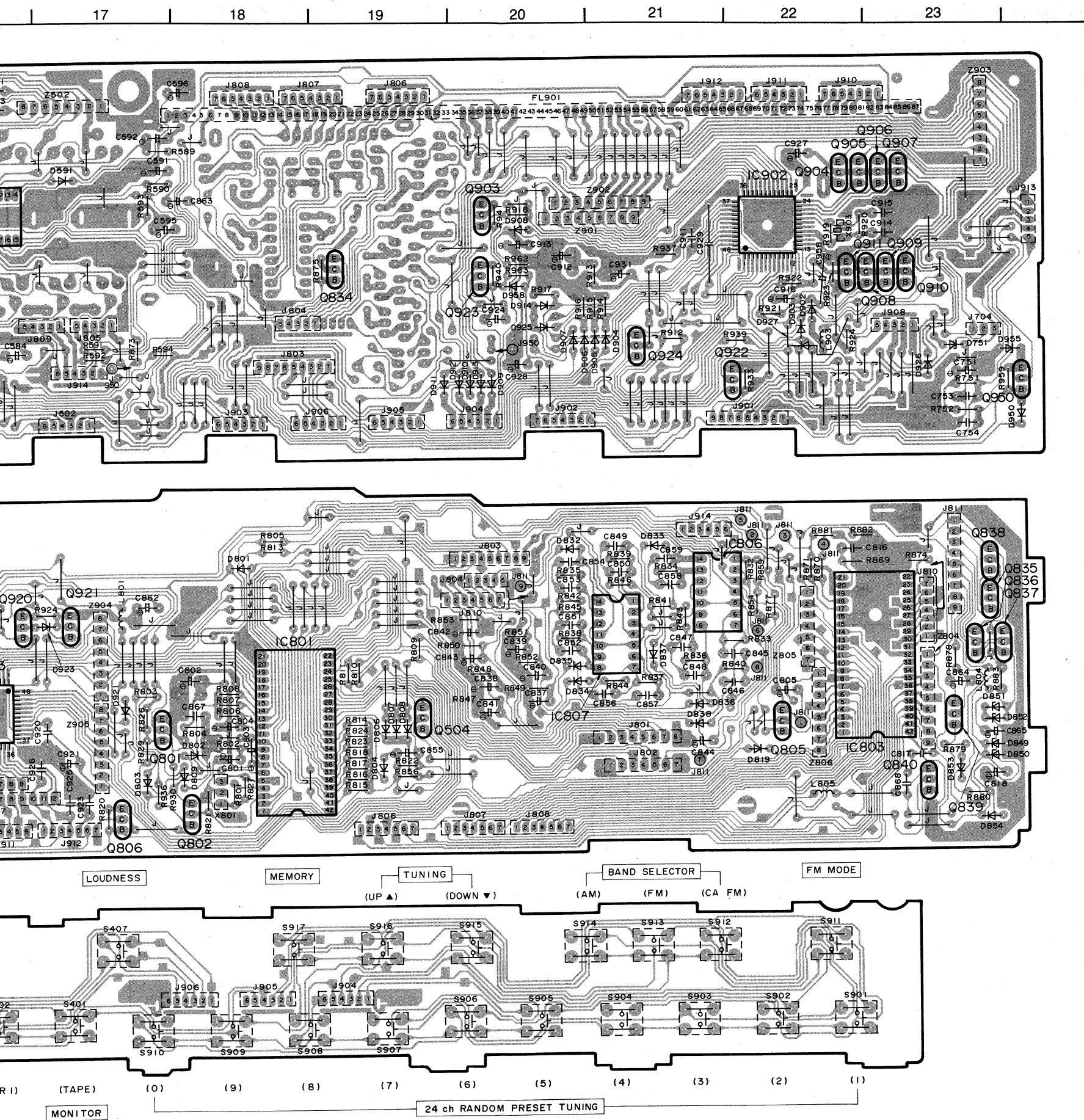


H MICRO COMPUTER/
INPUT SELECT P.C.B.

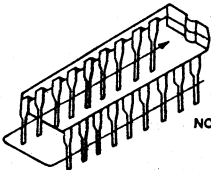
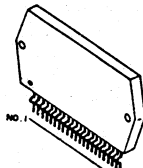
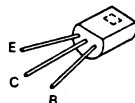
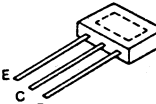
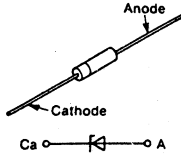
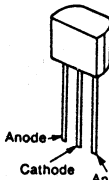
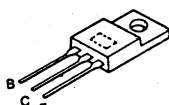
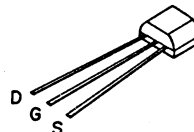
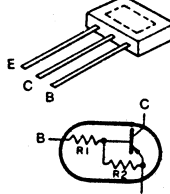
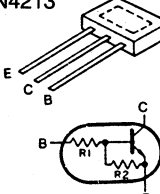
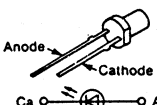
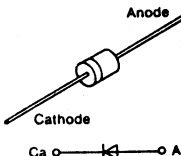
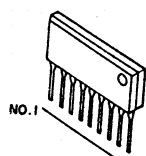
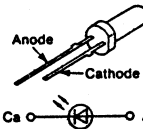


F SWITCH P.C.B.



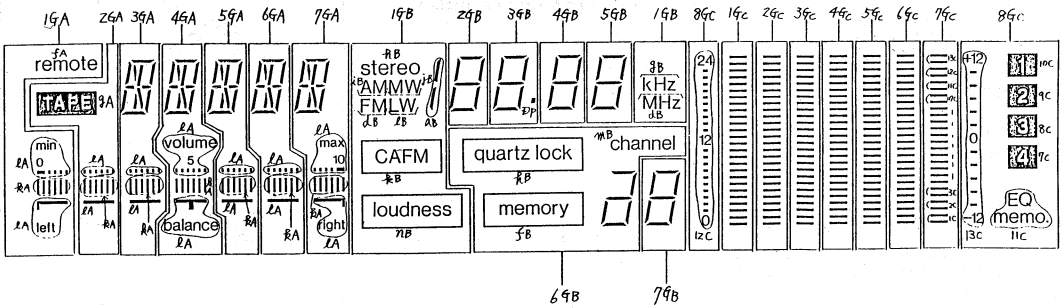


■ TERMINAL GUIDE OF IC'S, TRANSISTORS, AND DIODES

 NO.1	LC6512A-3377 (48PIN) LC6513A-3264 (48PIN)	SVI2105 (20PIN)  NO.1																																				
<table><tr><td>AN6558F</td><td>8PIN</td><td>AN7062</td><td>18PIN</td></tr><tr><td>LM7001</td><td>8PIN</td><td>AN7273A</td><td>18PIN</td></tr><tr><td>M5238P</td><td>8PIN</td><td>TC9177P</td><td>20PIN</td></tr><tr><td>M5218P</td><td>8PIN</td><td>M5229P</td><td>20PIN</td></tr><tr><td>AN6554F</td><td>14 PIN</td><td>TC9163N</td><td>28PIN</td></tr><tr><td>MN4013B</td><td>14PIN</td><td>LC7522</td><td>28PIN</td></tr><tr><td>MN4066B</td><td>14PIN</td><td>LC6543C3369</td><td>30PIN</td></tr><tr><td>AN7470</td><td>16PIN</td><td>LC7565</td><td>42PIN</td></tr><tr><td>SVIBA6148</td><td>16PIN</td><td>M50720-408</td><td>42PIN</td></tr></table>	AN6558F	8PIN	AN7062	18PIN	LM7001	8PIN	AN7273A	18PIN	M5238P	8PIN	TC9177P	20PIN	M5218P	8PIN	M5229P	20PIN	AN6554F	14 PIN	TC9163N	28PIN	MN4013B	14PIN	LC7522	28PIN	MN4066B	14PIN	LC6543C3369	30PIN	AN7470	16PIN	LC7565	42PIN	SVIBA6148	16PIN	M50720-408	42PIN	2SA922, 2SA1123 2SC1384, 2SC1845 2SC2631  E C B	2SA1309, 2SC2785 2SC2787, 2SC3311  E C B
AN6558F	8PIN	AN7062	18PIN																																			
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 Anode Cathode Ca A	MA4051M MA4056M MA4062M MA4075M MA4082M MA4110M MA4150M MA4300M SVDS3V20  Anode Cathode Anode A Ca A	KV1260Z  B C E																																				
2SK241 2SK381  D G S	UN4111, UN4115  E C B B R1 R2 E	UN4211, DTC143 UN4213  E C B B R1 R2 E	SWV66  Anode Cathode Ca A																																			
MA165, MA162 MA167, MA29WA MA858, 1SR35200A  Anode Cathode Ca A	MN6634 9PIN  NO.1	LN863RCPP  Anode Cathode Ca A																																				

DESCRIPTION OF FLUORESCENT DISPLAY

Grid assignment



Pin connection

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
CONNECTION	F	F	F	N	N	N	N	N	13	12	8	11	10	9	7	8	6	7	6	5	5	4	4	3	3	2	2	1	1	N	h
	1	1	1	P	P	P	P	P	C	C	GC	C	C	C	GC	C	GC	C	C	GC	C	GC	C	C	C	C	C	C	C	P	B

PIN NO.	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
CONNECTION	f	N	N	7	6	m	5	i	j	4	N	N	N	N	N	3	k	2	l	c	a	e	d	g	b	1	N	n
	B	P	P	P	GB	GB	B	B	GB	B	P	P	P	P	P	GB	B	GB	B	B	B	B	B	B	B	GB	P	B

PIN NO.	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87
CONNECTION	N	7	g	c	6	i	e	5	d	N	k	4	j	N	3	N	f	h	2	b	a	N	1	l	N	F	F	F
	P	GA	A	A	GA	A	A	GA	A	P	GA	A	P	GA	A	P	A	A	GA	A	A	P	GA	A	P	2	2	2

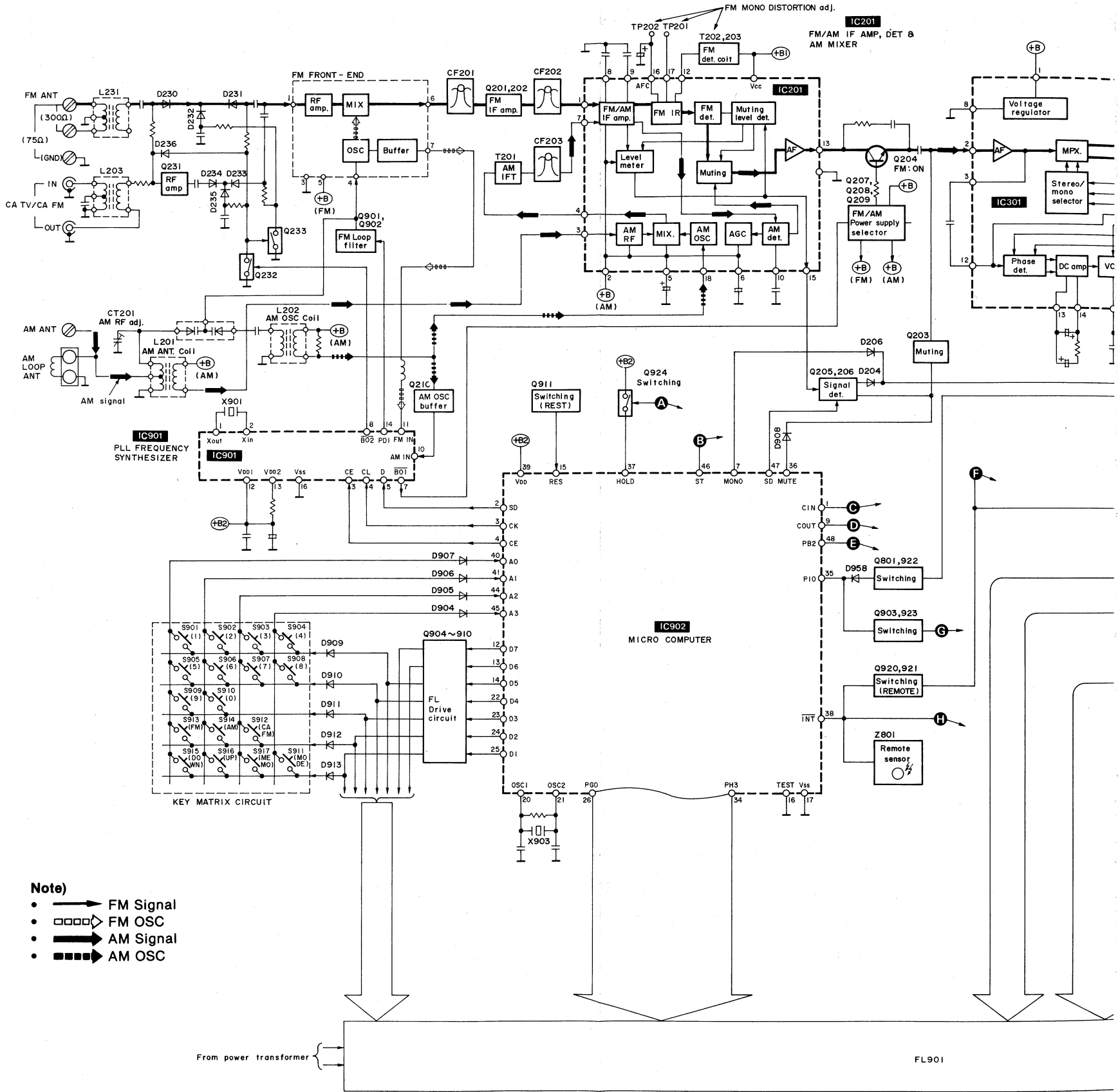
Anode connection

Tuner section	1GB	2GB	3GB	4GB	5GB	6GB	7GB
aB	-	aB	aB	aB	aB	aB	aB
bB	-	bB	bB	bB	bB	bB	bB
cB	-	cB	cB	cB	cB	cB	cB
dB	FM, MHz	dB	dB	dB	dB	dB	dB
eB	-	eB	eB	eB	eB	eB	eB
fB	-	fB	fB	fB	fB	memory	fB
gB	KHz	gB	gB	gB	gB	gB	gB
hB	stereo	-	DP	-	-	quartz lock	-
iB	AM	-	-	-	-	-	-
jB	MW	-	-	-	-	-	-
kB	CAFM	-	-	-	-	-	-
lB	LW	-	-	-	-	-	-
mB	-	-	-	-	-	channel	-
nB	loudness	-	-	-	-	-	-

Display section	1GA	2GA	3GA	4GA	5GA	6GA	7GA
aA	-	-	aA	aA	aA	aA	aA
bA	-	-	bA	bA	bA	bA	bA
cA	-	-	cA	cA	cA	cA	cA
dA	-	-	dA	dA	dA	dA	dA
eA	-	-	eA	eA	eA	eA	eA
fA	remote	-	fA	fA	fA	fA	fA
gA	-	TAPE	gA	gA	gA	gA	gA
hA	-	-	hA	hA	hA	hA	hA
iA	-	-	iA	iA	iA	iA	iA
jA	-	-	jA	jA	jA	jA	jA
kA							
lA	min						
eA	left						
				volume			
				balance			
							max
							right

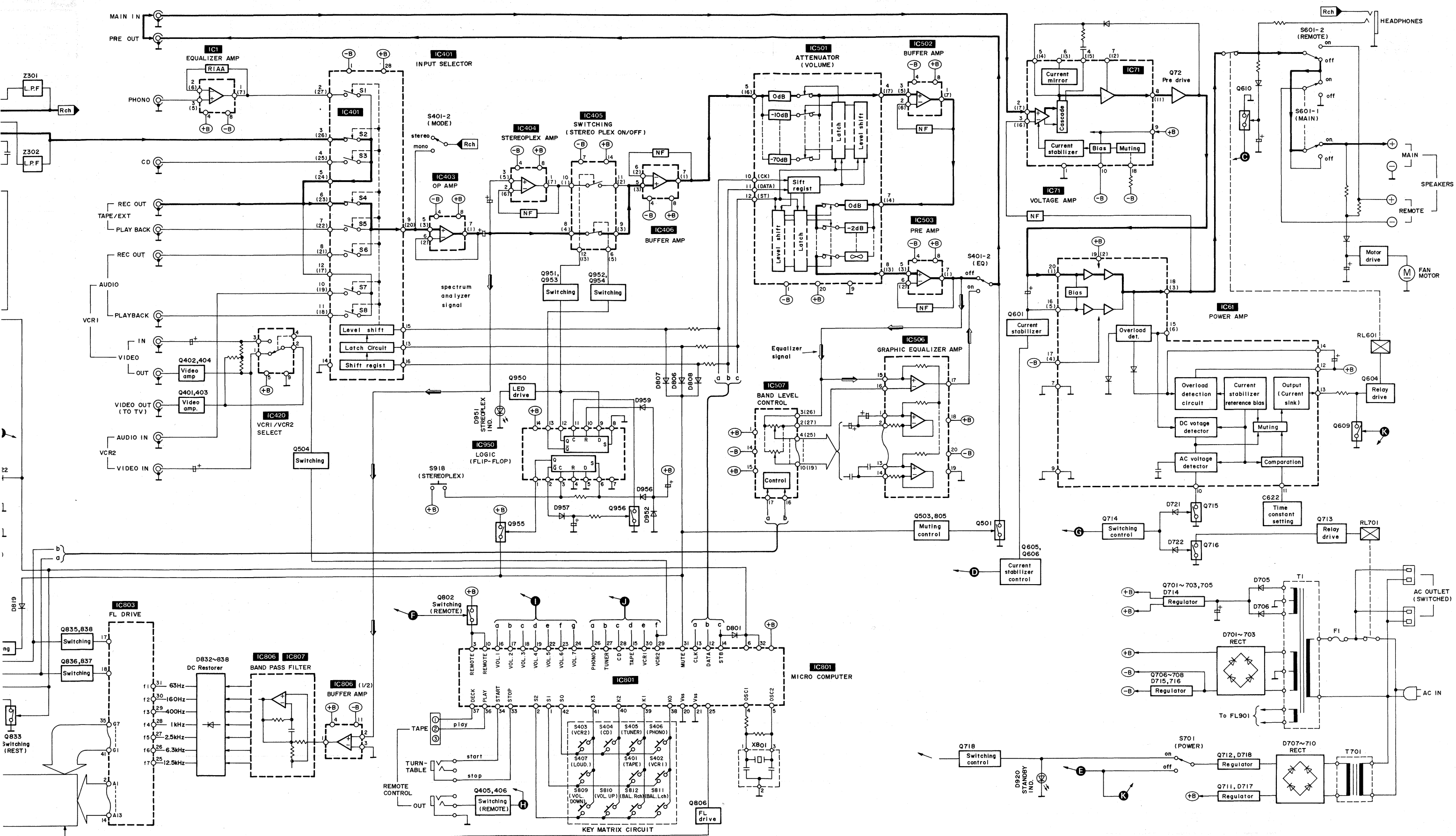
Graphic section	1GC	2GC	3GC	4GC	5GC	6GC	7GC	8GC
13C								+12 ~ -12
12C								24 ~ 0
11C								EQ memo.
10C								1
9C								2
8C								3
7C								4
6C								-
5C								-
4C								-
3C								-
2C								-
1C								-

BLOCK DIAGRAM



- Note)
- FM Signal
 - FM OSC
 - AM Signal
 - AM OSC



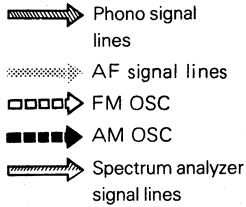


SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

1. S401-1 : Equalizer switch in "OFF" position.
2. S401-2 : Mode selector switch in "Stereo" position.
3. S401 : Tape monitor switch.
4. S402~406 : Input selector switch.
(S402: VCR1, S403: VCR2, S404: CD, S405: Tuner, S406: Phono)
5. S407 : Loudness switch.
6. S601-1 : Main speaker switch in "ON" position.
7. S601-2 : Remote speaker switch in "OFF" position.
8. S701 : Power switch in "ON" position.
9. S809, 810 : Volume control switch. (S809: Down, S810: Up)
10. S811, S812 : Balance control switch. (S811: Left, S812: Right)
11. S813, S814 : Equalizer level (63 Hz) control switch.
(S813: Up, S814: Down)
12. S815, S816 : Equalizer level (160 Hz) control switch.
(S815: Up, S816: Down)
13. S817, S818 : Equalizer level (400 Hz) control switch.
(S817: Up, S818: Down)
14. S819, S820 : Equalizer level (1 kHz) control switch.
(S819: Up, S820: Down)
15. S821, S822 : Equalizer level (2.5 kHz) control switch.
(S821: Up, S822: Down)
16. S823, S824 : Equalizer level (6.3 kHz) control switch.
(S823: Up, S824: Down)
17. S825, S826 : Equalizer level (12.5 kHz) control switch.
(S825: Up, S826: Down)
18. S827~830 : Equalizer preset switch.
(S827: 1 S828: 2 S829: 3 S830: 4)
19. S831 : Spectrum/Equalizer selector switch.
20. S901~910 : AM/FM random preset tuning.
S901: 0 S902: 1 S903: 2 S904: 3
S905: 4 S906: 5 S907: 6 S908: 7
S909: 8 S910: 9
21. S911 : FM mode selector switch.
22. S912~914 : Band selector switch.
(S912: CAFM, S913: FM, S914: AM)
23. S915 : Tuning down switch.
24. S916 : Tuning up switch.
25. S917 : Memory switch.
26. S918 : Stereoplex switch.
27. Direct equalizer level control key matrix circuit includes switches that "vary all frequencies in the range of $\pm 10\text{dB}$ ".
28. Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.



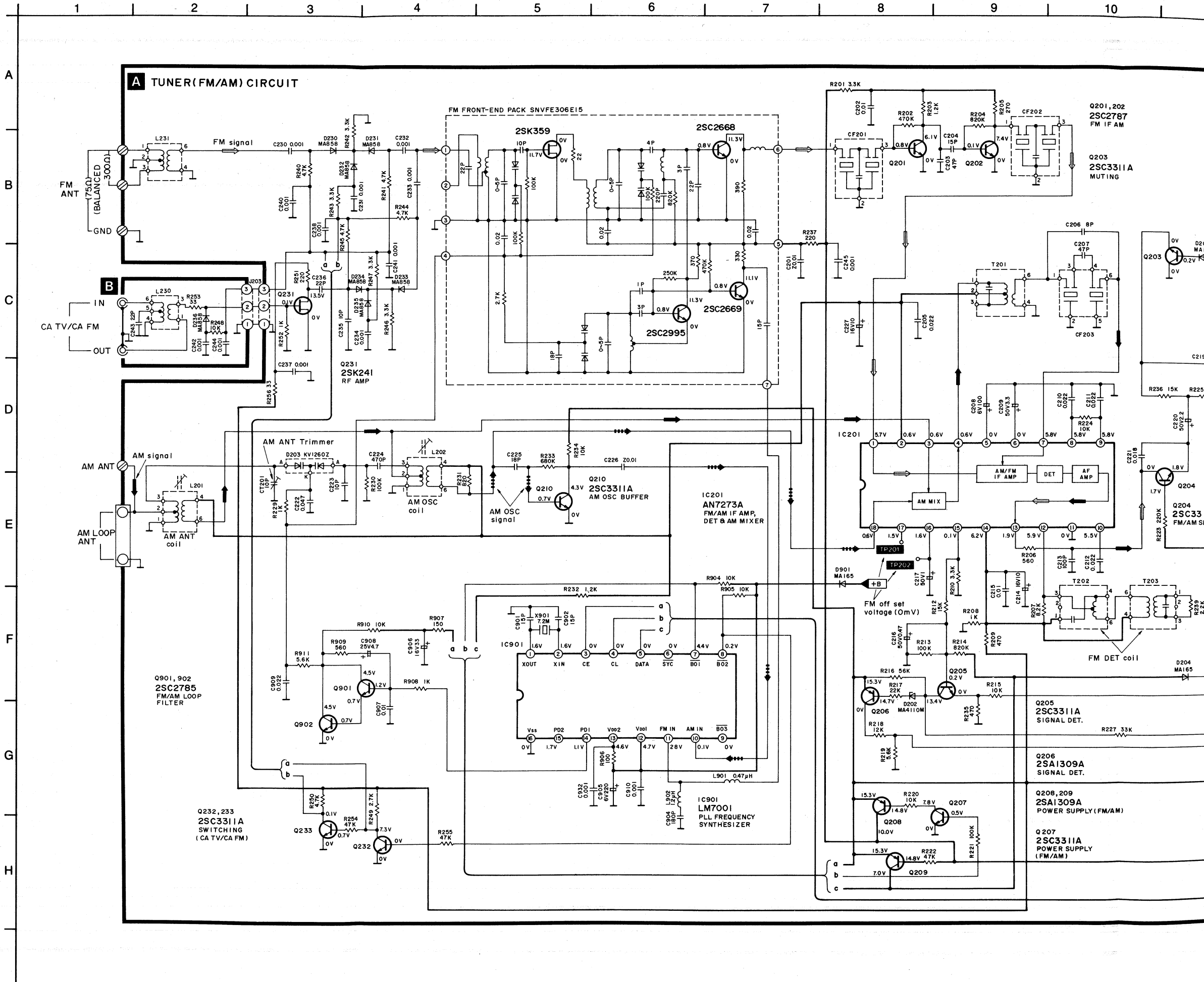
29. Important safety notice:

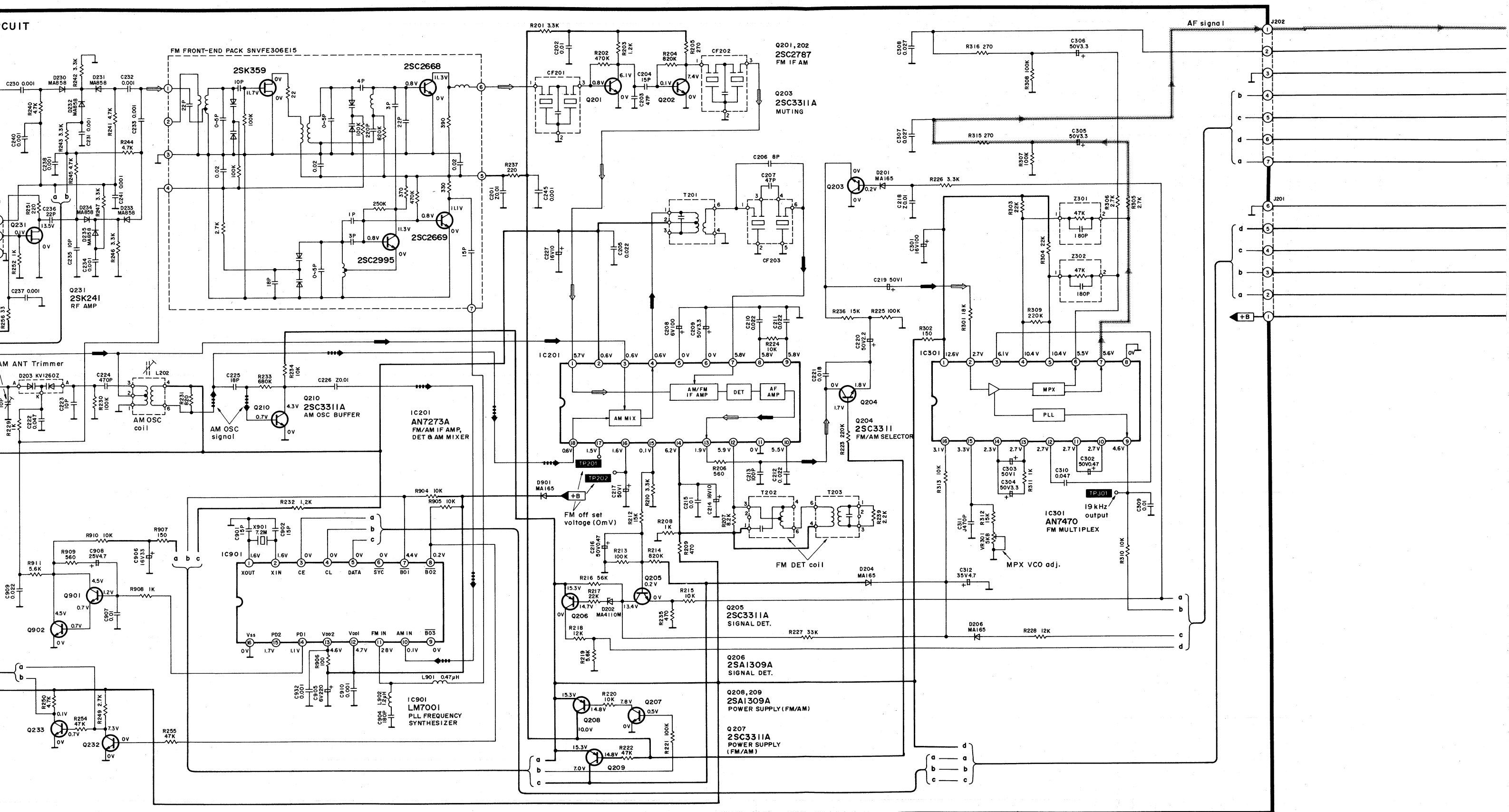
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

FUSE CAUTION

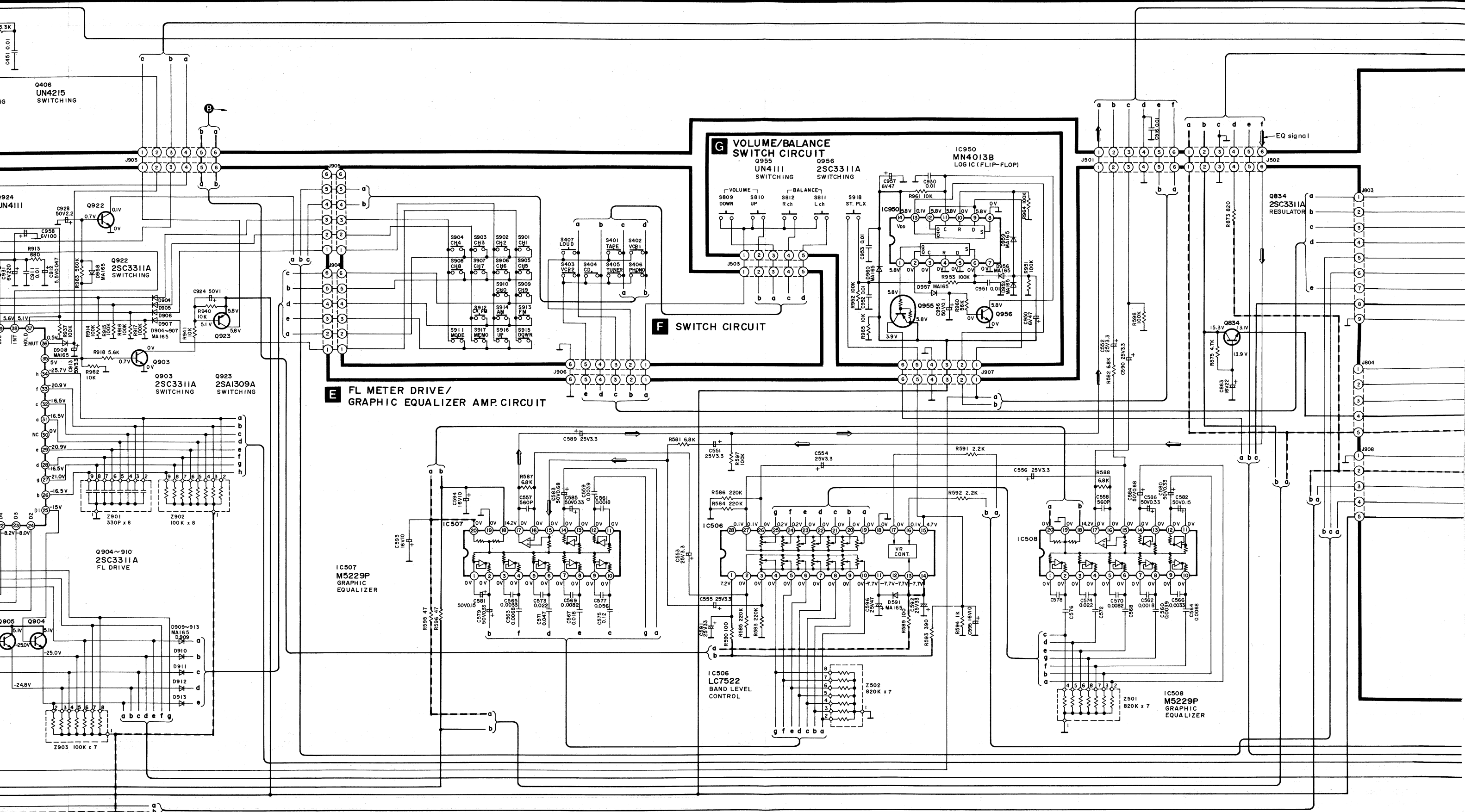
Δ This symbol located near the fuse indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating, refer to the marking adjacent to the symbol.

Δ Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n'utiliser que des fusibles de même type. Ce dernier est indiqué là où le présent symbole est apposé.

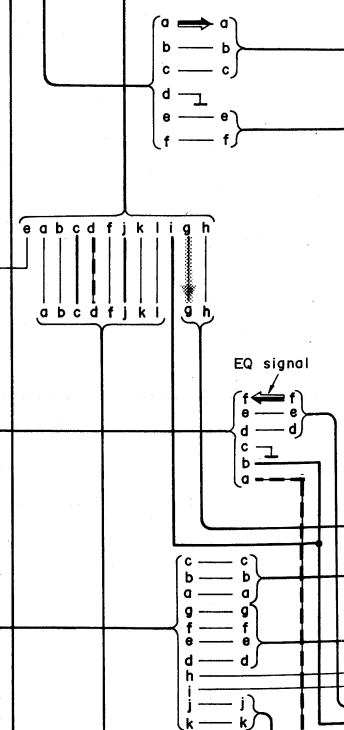
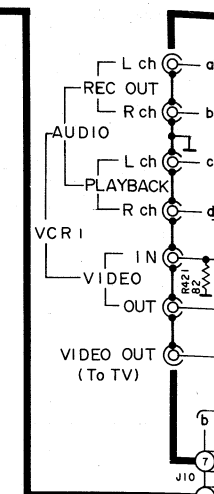


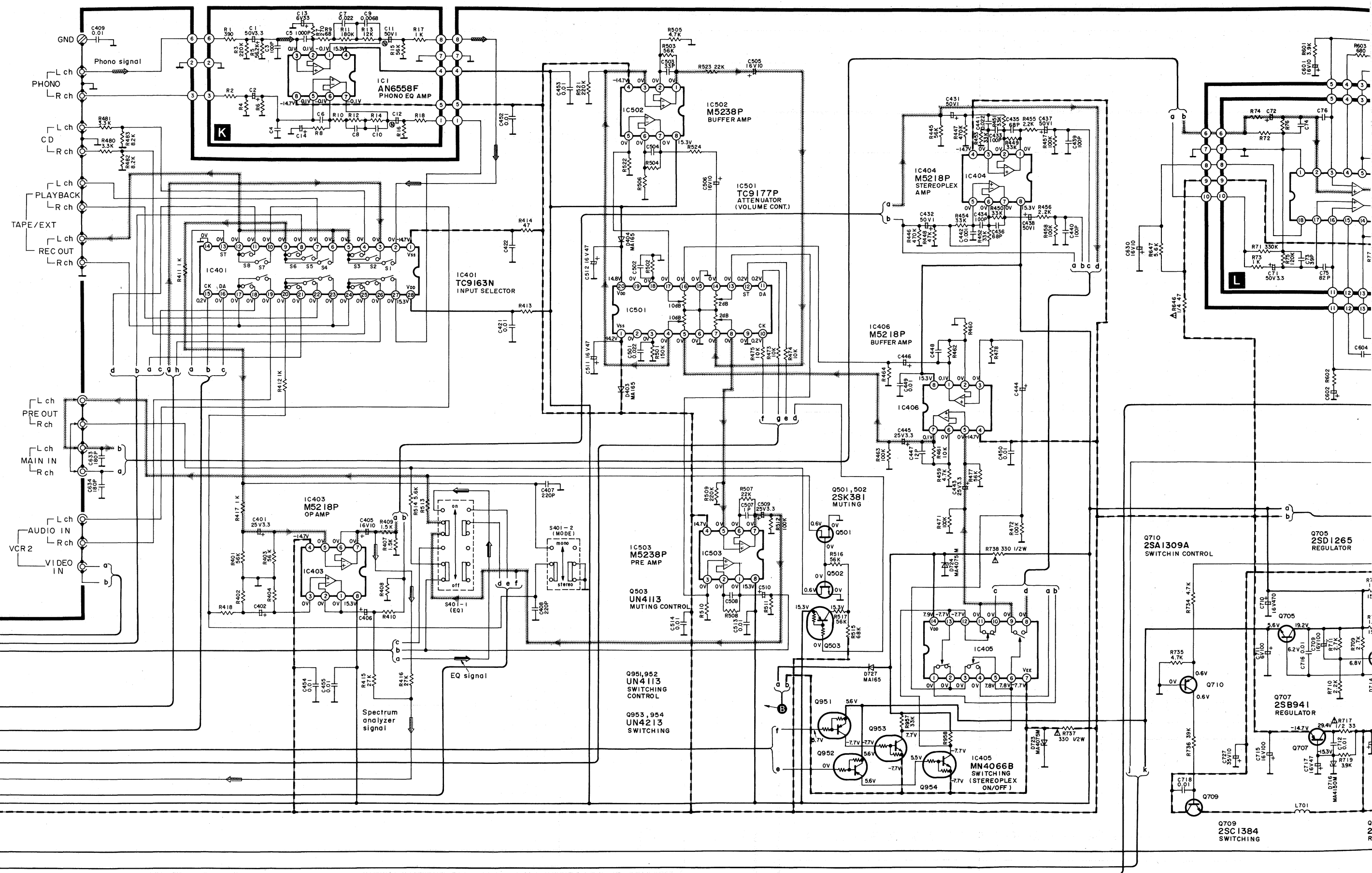


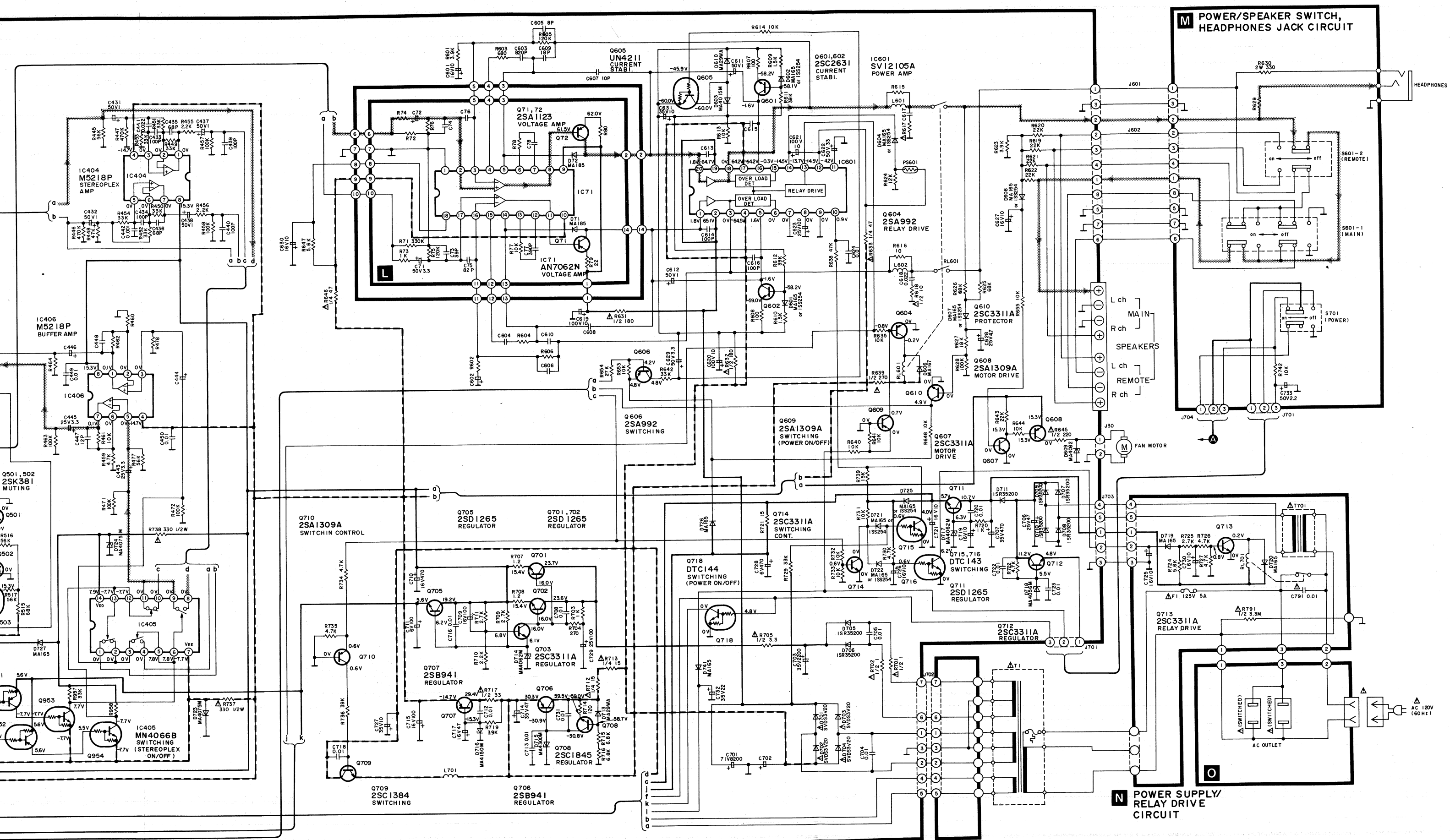




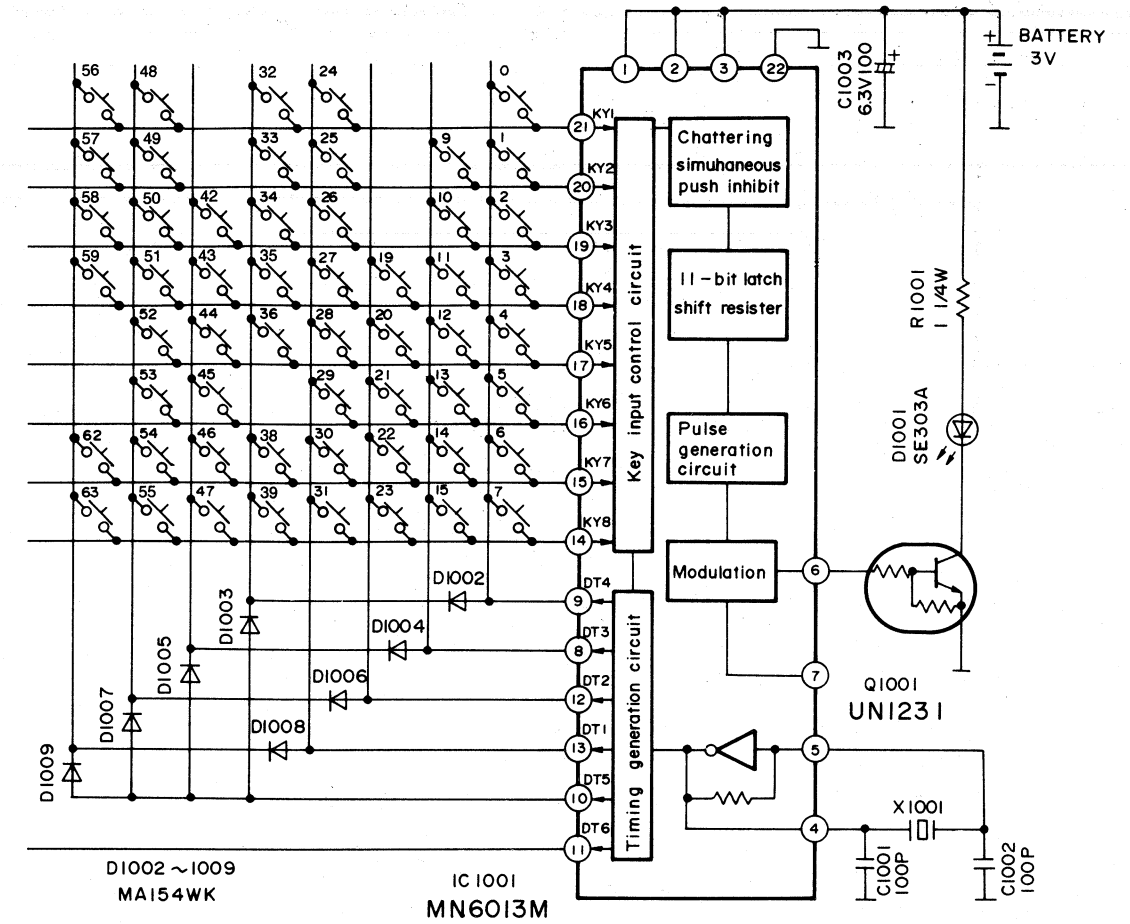
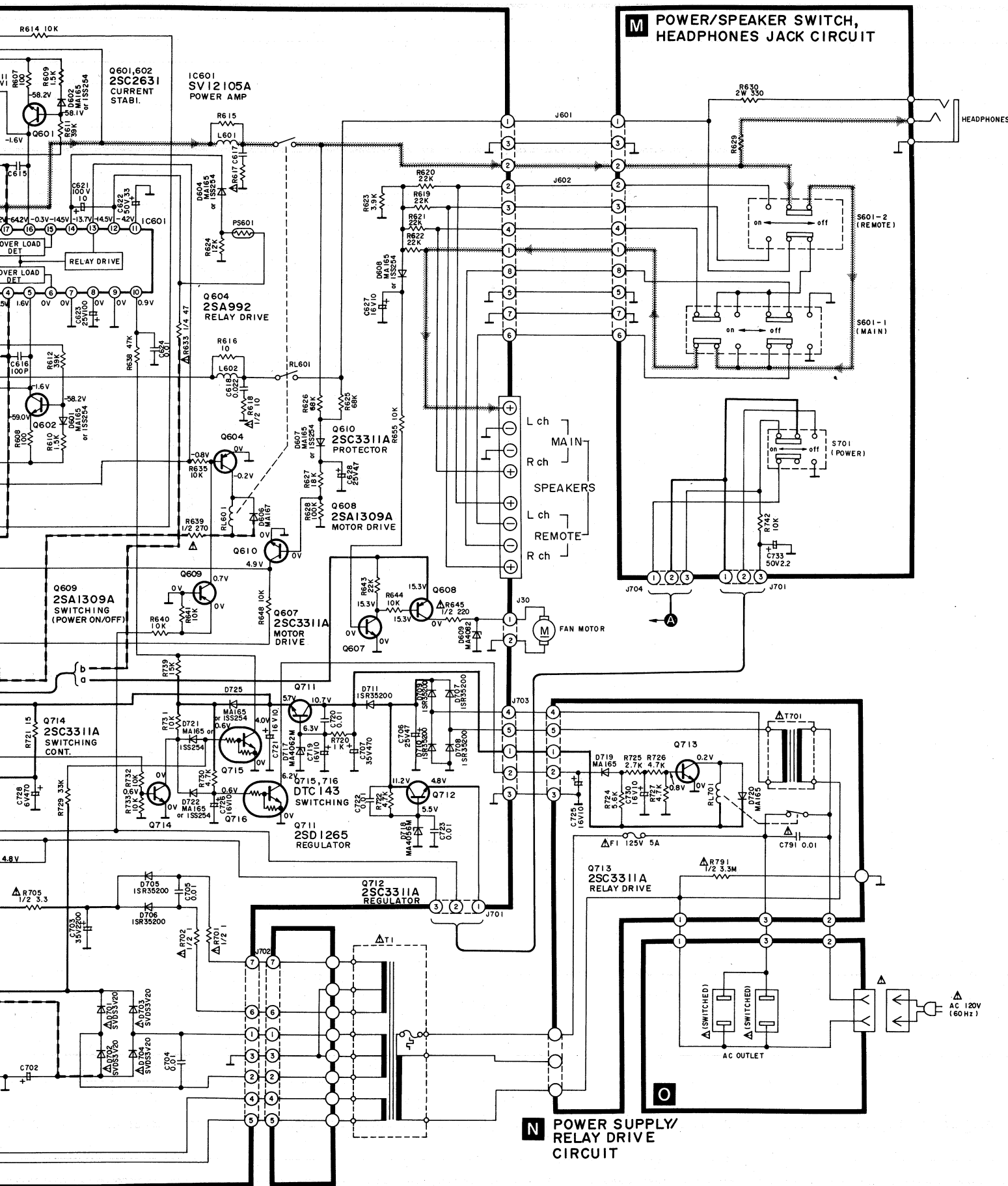






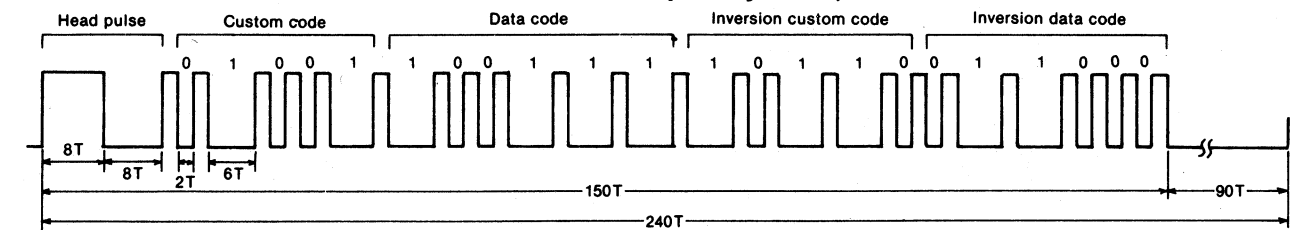


■ SCHEMATIC DIAGRAM OF REMOTE-CONTROL TRANSMITTER



• **KEY NUMBER DESCRIPTION AND DATA CODE** (Example key No. 0)

$$T = 1/f_{clk}$$

$$f_{clk} = 455 \text{ kHz} / 192$$


Key No.	Function	Custom code	Data code	Key No.	Function	Custom code	Data code
0	Muting	01001	100111	32	Power TV	00000	100000
1	Volume Down	01001	100101	33	TV Tuning Up	00000	100010
2	Volume Up	01001	100100	34	TV Tuning Down	00000	100011
3	Power	01001	100000	35	TV/VIDEO	00000	001101
4	Tuning 1	01001	010000	36	Deck A/B	01001	000100
5	Tuning 2	01001	010001	38	Rec Mute	01001	000111
6	Tuning 3	01001	010010	39	Rec	01001	001000
7	Tuning 4	01001	010011	42	TV 0	00000	011001
9	VCR 1	01001	111110	43	TV 9	00000	011000
10	VCR 2	01001	110100	44	VCR ►►	00010	000011
11	Tuning 5	01001	010100	45	VCR ◄◄	00010	000010
12	Tuning 6	01001	010101	46	VCR Stop	00010	000000
13	Tuning 7	01001	010110	47	VCR Play	00010	001010
14	Tuning 8	01001	010111	48	TV 8	00000	010111
15	Tuning 9	01001	011000	49	TV 7	00000	010110
19	Tuning 0	01001	011001	50	TV 6	00000	010101
20	Turntable Start	01001	001100	51	TV 5	00000	010100
21	Turntable Stop	01001	001101	52	Tuning Up	00010	100010
22	Deck Pause	01001	000110	53	Tuning Down	00010	100011
23	Deck Stop	01001	000000	54	TV/VCR	00010	101010
24	CD Play	01100	001010	55	Power VCR	00010	100000
25	CD Stop	01100	000000	56	TV 4	00000	010011
26	CD Skip ◄	01100	000010	57	TV 3	00000	010010
27	CD Skip ►	01100	000011	58	TV 2	00000	010001
28	Deck ►►	01001	000011	59	TV 1	00000	010000
29	Deck ◄◄	01001	000010	62	VCR Pause	00010	000110
30	Deck Play ►	01001	001010	63	VCR Rec	00010	001000
31	Deck Play ◄	01001	001001				